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PN - [US2016207808](#) A1 20160721

PR - MX20130010211 20130906; WO2014MX00110 20140717

AP - US201414916601 20140717

DT - **

CCI - [C02F1/32](#) ; [C02F3/30](#) ; [C02F9/00](#)

CCA - [C02F1/004](#) ; [C02F1/76](#) ; [C02F3/2826](#) ; [C02F3/327](#) ; [C02F11/16](#) ; [C02F2203/002](#) ;
[C02F2303/04](#) ; [C02F2303/24](#) ; [Y02W10/18](#) ; [Y02W10/37](#)

CUA - [C02F2001/007](#) ; [C02F2101/105](#) ; [C02F2101/16](#)

PA - CASTELLANOS ROLDÁN MARCO ANTONIO [MX]

TI - SYSTEM AND MULTI-FUNCTIONAL METHOD FOR TREATING WASTEWATER

AB - The invention relates to a municipal wastewater treatment system (STAR) for forming a wastewater treatment plant (PTAR), characterized by the functional and structural relationship between the components thereof. The invention comprises seven treatment stages in the STAR and the arrangement thereof, including: an intake **regulator box** having a discharge outlet; a pretreatment stage consisting of solid separation screens and grit channels; and **anaerobic biodigester**; an up-flow **anaerobic filter**; drying beds; subsurface flow constructed wetlands; and a chlorine contact channel. The STAR and PTAR according to the invention are suitable for use in a single home, as well as for use by communities of approximately 5,000 (thousand) inhabitants, and their capacity can be increased to the extent that new elements are provided at each of the different steps,

simply by adding and adapting modules, without having to replace the already operating elements.

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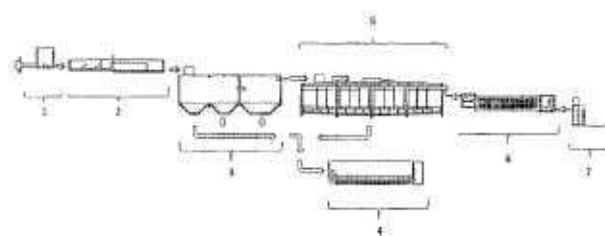
- PN - [EP3042879](#) A1 20160713
- PNFP - EP3042879 A4 20170125
- PR - MX20130010211 20130906; WO2014MX00110 20140717
- AP - EP20140841824 20140717
- DT - *; Rep
- CT - || STSE (A4)
[MXPA01001811](#) A 20050428 [X] (MARCO ANTONIO CASTELLANOS ROLD [MX])
[X] 1-18
* page 1, lines 1-13,15-20,24-32,41-52 *
* page 1, line 54 - page 3, line 5 *
* page 2, lines 14-20 *
* figures 1-6 *;
[US2006086662](#) A1 20060427 [A] (OGDEN MICHAEL H [US])
[A] 1
* paragraphs [0062] , [0066] , [0070] - [0072]; figure 2a *;
[WO2011082329](#) A1 20110707 [A] (BP CORP NORTH AMERICA INC [US], et al)
[A] 1
* paragraphs [0014] - [0015] - [0020]; figure 1 *;
[EP0213691](#) A2 19870311 [A] (UNIV LELAND STANFORD JUNIOR [US])
[A] 5,16
* page 8, line 52 - page 9, line 9; figure 6 *;
[CN101318756](#) A 20081210 [A] (HUNAN HONGDA ENVIRONMENTAL PRO [CN])
[A] 1,7,17
* paragraphs [0024] - [0029]; figure 1 *;
[US6447682](#) B1 20020910 [A] (FLOWERS DAVID A [US])
[A] 8,18
* column 1, lines 14-16 *
* column 4, lines 16-28 *
* column 5, lines 16-30 *
* column 7, lines 51-60 *
* figures 4-6 *
- CCI - [C02F1/32](#) ; [C02F3/30](#) ; [C02F9/00](#)
- CCA - [C02F1/004](#) ; [C02F1/76](#) ; [C02F3/2826](#) ; [C02F3/327](#) ; [C02F11/16](#) ; [C02F2203/002](#) ;
[C02F2303/04](#) ; [C02F2303/24](#) ; [Y02W10/18](#) ; [Y02W10/37](#)
- CUA - [C02F2001/007](#) ; [C02F2101/105](#) ; [C02F2101/16](#)
- PA - (A1 A4)
CASTELLANOS ROLDÁN MARCO ANTONIO [MX]
- TI - (A1 A4)
SYSTEM AND MULTI-FUNCTIONAL METHOD FOR TREATING WASTEWATER
- AB - (A1)
The invention relates to a municipal wastewater treatment system (STAR) for forming a wastewater treatment plant (PTAR), characterized by the functional and structural

relationship between the components thereof. The invention comprises seven treatment stages in the STAR and the arrangement thereof, including: an intake **regulator box** having a discharge outlet; a pretreatment stage consisting of solid separation screens and grit channels; and **anaerobic biodigester**; an up-flow **anaerobic filter**; drying beds; subsurface flow constructed wetlands; and a chlorine contact channel. The STAR and PTAR according to the invention are suitable for use in a single home, as well as for use by communities of approximately 5,000 (thousand) inhabitants, and their capacity can be increased to the extent that new elements are provided at each of the different steps, simply by adding and adapting modules, without having to replace the already operating elements.

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- PN - [WO2015034338](#) A1 20150312
- PR - MX20130010211 20130906
- AP - WO2014MX00110 20140717
- DT - **
- CT - |ES| ISR (A1)
[WO2014118416](#) A1 20140807
 [A] (UNIV SANTIAGO COMPOSTELA [ES]);
[WO0210077](#) A1 20020207
 [A] (CH2M HILL [US]);
[ES2385002](#) A1 20120717
 [A] (UNIV SANTIAGO COMPOSTELA [ES])
- CCI - [C02F1/32](#) ; [C02F3/30](#) ; [C02F9/00](#)
- CCA - [C02F1/004](#) ; [C02F1/76](#) ;
[C02F3/2826](#) ; [C02F3/327](#) ;
[C02F11/16](#) ; [C02F2203/002](#) ;
[C02F2303/04](#) ; [C02F2303/24](#) ;
[Y02W10/18](#) ; [Y02W10/37](#)
- CUA - [C02F2001/007](#) ; [C02F2101/105](#) ;
[C02F2101/16](#)
- PA - CASTELLANOS ROLDÁN MARCO
 ANTONIO [MX]
- TI - SYSTEM AND MULTI-FUNCTIONAL
 METHOD FOR TREATING
 WASTEWATER
- AB - The invention relates to a municipal wastewater treatment system (STAR) for forming a wastewater treatment plant (PTAR), characterised by the functional and structural relationship between the components thereof. The

FIGURA 3



invention comprises seven treatment stages in the STAR and the arrangement thereof, including: an intake **regulator box** having a discharge outlet; a pretreatment stage consisting of solid-separation screens and grit channels; an **anaerobic biodigester**; an up-flow **anaerobic filter**; drying beds; subsurface flow constructed wetlands; and a chlorine contact channel. The STAR and PTAR according to the invention are suitable for use in a single home, as well as for use by communities of approximately 5,000 (thousand) inhabitants, and their capacity can be increased to the extent that new elements are provided at each of the different steps, simply by adding and adapting modules, without having to replace the already operating elements.