Expand one		
Country	**Status**	**Number**
Algeria	Patented	11620
Algeria	Patented	12927
Algeria	Patented	13101
Australia	Patented	2021243493
Australia	Pending	2022350759
Australia	Pending	2024257974
Austria	Patented	3938127
Belgium	Patented	3938127
Brazil	Patented	112021023975-8
Brazil	Published	1120240044300
Brazil	Pending	BR 11 2025 019099 7
Canada	Patented	3136701
Canada	Pending	3229427
Canada	Pending	3,284,273
Chile	Patented	67.679
Chile	Patented	73.756
Chile	Published	202502876
China	Patented	ZL202310632463.9
China	Patented	ZL202310632434.2
China	Patented	202180002908.4
China	Published	202280062621.5
China	Published	202480021060.3
Colombia	Patented	45102
Colombia	Published	NC2024/0004232
Colombia	Published	NC2025/0012219
Czechia	Patented	3938127
Denmark	Patented	3938127
Egypt	Pending	PCT 1657/2021
Egypt	Pending	PCT 378/2024
Egypt	Pending	PCT 1360/2025
Europe	Published	23159760.0
Europe	Published	23159758.4
Europe	Published	22772919.1
Europe	Published	24718181.1
Finland	Patented	3938127
France	Patented	3938127
Germany	Patented	3938127
India	Patented	536817
India	Pending	202417013001
India	Pending	202517106128
Indonesia	Patented	IDP000104487
Indonesia	Patented	P000093538
Indonesia	Published	P00202402373
Indonesia	Published	P00202508759

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Country	**Status**	**Number**
Ireland	Patented	3938127
Italy	Patented	3938127
Japan	Patented	7465319
Japan	Patented	7177290
Japan	Pending	2024-518474
Japan	Pending	2025-559686
Malaysia	Patented	195381
Malaysia	Pending	PI 2024001006
Malaysia	Pending	PI 2025006433
Mexico	Published	MX/A/2025/008497
Mexico	Published	MX/A/2025/008498
Mexico	Patented	427947
Mexico	Published	MX/a/2024/003686
Mexico	Published	MX/a/2025/012455
Morocco	Patented	3938127
Netherlands	Patented	3938127
Nigeria	Pending	NG/PT/PCT/2021/5570
Nigeria	Pending	F/PT/PCT/2024/11510
Nigeria	Pending	F/PT/PCT/O/2025/18932
Peru	Patented	13757
Peru	Published	268-2024
Peru	Published	2176-2025
Philippines	Published	1-2021-552659
Philippines	Published	1-2024-550469
Philippines	Pending	1-2025-552044
Poland	Patented	3938127
Portugal	Patented	3938127
Russian Federation	Patented	2779482
Russian Federation	Patented	2853502
Russian Federation	Pending	2025124227
Saudi Arabia	Patented	13532
Saudi Arabia	Pending	1120241432
Saudi Arabia	Pending	1120256897
Slovakia	Patented	3938127
South Africa	Patented	2021/07498
South Africa	Patented	2024/01719
South Africa	Pending	2025/07042
South Korea	Patented	10-2723088
South Korea	Pending	10-2024-7012634
South Korea	Pending	10-2025-7034844
Spain	Patented	3938127
Sri Lanka	Patented	21970
Sri Lanka	Pending	23011
Sri Lanka	Pending	23761

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Country	**Status**	**Number**
Sweden	Patented	3938127
Switzerland	Patented	3938127
Thailand	Patented	123492
Thailand	Published	2401001874
Thailand	Pending	2501007073
Tunisia	Patented	3938127
Türkiye	Patented	3938127
Ukraine	Patented	127581
Ukraine	Pending	a202400856
Ukraine	Pending	a202504423
United Kingdom	Patented	3938127
United States	Published	17/491,345
United States	Published	18/999,606
United States	Published	18/690,951
United States	Published	19/159,247
Viet Nam	Patented	49144
Viet Nam	Pending	1-2024-02534
Viet Nam	Pending	1-2025-06964

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Country	Status	Number
Algeria	Patented	11620
Algeria	Patented	12927
Algeria	Patented	13101
Algeria	Patented	12706
Australia	Patented	2021243493
Australia	Pending	2022350759
Australia	Pending	2024257974
Australia	Patented	2021221223
Austria	Patented	3938127
Austria	Patented	3969206
Belgium	Patented	3938127
Belgium	Patented	3969206
Brazil	Patented	112021023975-8
Brazil	Published	1120240044300
Brazil	Pending	BR 11 2025 019099 7
Brazil	Patented	11 2022 000714 0
Canada	Patented	3136701
Canada	Pending	3229427
Canada	Pending	3,284,273
Canada	Patented	3146261
Chile	Patented	67.679
Chile	Patented	73.756
Chile	Published	202502876
Chile	Patented	69.167
China	Patented	ZL202310632463.9
China	Patented	ZL202310632434.2
China	Patented	202180002908.4
China	Published	202280062621.5
China	Published	202480021060.3
China	Patented	ZL202180003960.1
Colombia	Patented	45102
Colombia	Published	NC2024/0004232
Colombia	Published	NC2025/0012219
Colombia	Published	NC2022/0000436
Czechia	Patented	3938127
Czechia	Patented	3969206
Denmark	Patented	3938127
Denmark	Patented	3969206
Egypt	Pending	PCT 1657/2021
Egypt	Pending	PCT 378/2024
Egypt	Pending	PCT 1360/2025
Egypt	Pending	PCT28/2022
Europe	Published	23159760.0
Europe	Published	23159758.4

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Country	Status	Number
Europe	Published	22772919.1
Europe	Published	24718181.1
Finland	Patented	3938127
Finland	Patented	3969206
France	Patented	3938127
France	Patented	3969206
Germany	Patented	3938127
Germany	Patented	3969206
India	Patented	536817
India	Pending	202417013001
India	Pending	202517106128
India	Patented	479983
Indonesia	Patented	IDP000104487
Indonesia	Patented	P000093538
Indonesia	Published	P00202402373
Indonesia	Published	P00202508759
Indonesia	Patented	IDP000088390
Ireland	Patented	3938127
Ireland	Patented	3969206
Italy	Patented	3938127
Italy	Patented	3969206
Japan	Patented	7465319
Japan	Patented	7177290
Japan	Pending	2024-518474
Japan	Pending	2025-559686
Japan	Patented	7201871
Malaysia	Patented	195381
Malaysia	Pending	PI 2024001006
Malaysia	Pending	PI 2025006433
Malaysia	Patented	195424
Mexico	Published	MX/A/2025/008497
Mexico	Published	MX/A/2025/008498
Mexico	Patented	427947
Mexico	Published	MX/a/2024/003686
Mexico	Published	MX/a/2025/012455
Mexico	Patented	427335
Morocco	Patented	3938127
Morocco	Patented	3969206
Netherlands	Patented	3938127
Netherlands	Patented	3969206
Nigeria	Pending	NG/PT/PCT/2021/5570
Nigeria	Pending	F/PT/PCT/2024/11510
Nigeria	Pending	F/PT/PCT/O/2025/18932
Nigeria	Patented	RP NG/PT/PCT/2022/5877

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Country	Status	Number
Peru	Patented	13757
Peru	Published	268-2024
Peru	Published	2176-2025
Peru	Patented	11865
Philippines	Published	1-2021-552659
Philippines	Published	1-2024-550469
Philippines	Pending	1-2025-552044
Philippines	Patented	1/2022/550375
Poland	Patented	3938127
Poland	Patented	3969206
Portugal	Patented	3938127
Portugal	Patented	3969206
Russian Federation	Patented	2779482
Russian Federation	Patented	2853502
Russian Federation	Pending	2025124227
Russian Federation	Patented	2781511
Saudi Arabia	Patented	13532
Saudi Arabia	Pending	1120241432
Saudi Arabia	Pending	1120256897
Saudi Arabia	Patented	19122
Slovakia	Patented	3938127
Slovakia	Patented	3969206
South Africa	Patented	2021/07498
South Africa	Patented	2024/01719
South Africa	Pending	2025/07042
South Africa	Patented	2022/01890
South Korea	Patented	10-2723088
South Korea	Pending	10-2024-7012634
South Korea	Pending	10-2025-7034844
South Korea	Patented	10-2866200
Spain	Patented	3938127
Spain	Patented	3969206
Sri Lanka	Patented	21970
Sri Lanka	Pending	23011
Sri Lanka	Pending	23761
Sri Lanka	Patented	22120
Sweden	Patented	3938127
Sweden	Patented	3969206
Switzerland	Patented	3938127
Switzerland	Patented	3969206
Thailand	Patented	123492
Thailand	Published	2401001874
Thailand	Pending	2501007073
Thailand	Patented	121321

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Country	Status	Number
Tunisia	Patented	3938127
Tunisia	Patented	3969206
Türkiye	Patented	3938127
Türkiye	Patented	3969206
Ukraine	Patented	127581
Ukraine	Pending	a202400856
Ukraine	Pending	a202504423
Ukraine	Patented	128993
United Kingdom	Patented	3938127
United Kingdom	Patented	3969206
United States	Published	17/491,345
United States	Published	18/999,606
United States	Published	18/690,951
United States	Published	19/159,247
United States	Patented	11534822
Viet Nam	Patented	49144
Viet Nam	Pending	1-2024-02534
Viet Nam	Pending	1-2025-06964
Viet Nam	Patented	46117