

DANH SÁCH SÁNG CHÉ LIÊN QUAN ĐẾN SẢN PHẨM CHỐNG COVID 19

STT	Số đơn	Ngày nộp đơn	Số công bố đơn/Số bằng	Chủ đơn/Chủ bằng	Tên sáng chế	Tóm tắt sáng chế	Quốc gia nộp đơn đầu tiên
1	VN1-1997-00932	14/10/1997	1-0003264	KOWA CO., LTD (JP)	THUỐC DIỆT KHUẨN SÁT TRÙNG DÙNG CHO HỌNG	Sáng chế liên quan tới thuốc diệt khuẩn sát trùng dùng cho họng chứa povidon-iod và kali glyxynhizinat. Thuốc này có cảm giác dễ chịu khi sử dụng và có độ ổn định tốt	JP
2	1-2005-00032	13/06/2003	1-0005671	HAN SANG-KEE (KR)	CHỒI RĂNG CÓ THUỐC SÚC MIỆNG VÀ CHẤT KHỬ TRÙNG	Sáng chế đề cập đến chổi chải răng có thuốc súc miệng và chất khử trùng. Chổi chải răng này bao gồm hai cụm chổi chải. Mỗi cụm chổi chải bao gồm tay cầm có tiết diện ngang hình chữ nhật, và phương tiện làm sạch ở đầu, như các lông chải hoặc chỉ chải răng, gắn cố định vào đầu của tay cầm. Chổi chải răng còn có vỏ gồm hai phần chứa. Trong trường hợp này, các phần chứa có dạng hộp rỗng để chứa các cụm chổi chải, và lần lượt chứa thuốc súc miệng và chất khử trùng trong đó. Hơn nữa, cụm bịt kín được tạo ra ở vị trí quanh miệng của mỗi phần chứa. Hai phần chứa được làm liền khói với nhau để tạo thành một kết cấu liền	KR

						khỏi, và được bố trí thẳng hàng theo một đường thẳng hoặc được bố trí song song với nhau sao cho các miệng của các phần chứa đối diện với nhau hoặc liền kề nhau.	
3	VN1-2012-02530	24/08/2012	1-0022480	Industrie De Nora S.p.A. (IT)	THIẾT BỊ KHỬ TRÙNG CHO TAY	Sáng chế đề cập đến thiết bị khử trùng cho tay và rửa tay nhờ phun dung dịch hoạt tính được điện phân tại chỗ. Dung dịch được phân phối chứa clo hoạt tính tùy ý được bổ sung ozon hoặc peroxit.	IT
4	VN 1-2013-01482	13.05.2013	1-0020295	Trịnh Thị Hà (VN)	Chế phẩm dùng để súc miệng và quy trình sản xuất chế phẩm này	Sáng chế đề cập đến chế phẩm dùng để súc miệng chứa dung dịch chứa tinh dầu tràu không với lượng 10% thể tích của chế phẩm, dung dịch natribenzoat 10% với lượng nằm trong khoảng từ 1% đến 2% thể tích của chế phẩm và nước tinh khiết với lượng nằm trong khoảng từ 88% đến 89% thể tích của chế phẩm và quy trình sản xuất chế phẩm dùng để súc miệng này. Chế phẩm này có tác dụng sát khuẩn, khử trùng cao, đặc trị hôi miệng mà không ê buốt răng, sau một thời gian đã sử dụng sản phẩm này, phạm vi sử dụng rộng rãi cho mọi lứa tuổi	VN

5	VN 1-2016-03774	7/10/2016	50379A	Trung tâm nghiên cứu và phát triển chế biến dầu khí - Viện dầu khí Việt Nam	Chế phẩm rửa tay dạng gel và quy trình điều chế chế phẩm này	Sáng chế đề xuất chế phẩm rửa tay dạng gel dùng để diệt khuẩn, vệ sinh tay, chế phẩm này bao gồm các thành phần như sau (tính theo % khối lượng): etanol: 55 - 70; cacbome: 0,05 - 2,5; cacboxy methyl xenlulo (CMC): 0,05 - 1,5; glyxerin: 0,5 - 1; triisopropanolamin (TIPA); 0,05 - 2,5; vitamin E: 0,3 - 0,6; chất tạo mùi thơm/màu: 1 - 1,5; và nước: 26 - 40. Ngoài ra, sáng chế cũng đề cập đến quy trình điều chế chế phẩm rửa tay dạng gel này	VN
6	VN1-2016-04138	28/10/2016	52122A	Trung tâm Nghiên cứu triển khai Khu Công nghệ cao	CHẾ PHẨM RỬA TAY DIỆT KHUẨN DẠNG GEL VÀ QUY TRÌNH TẠO RA CHẾ PHẨM NÀY	Sáng chế đề cập đến chế phẩm rửa tay diệt khuẩn dạng gel chứa chất tạo gel, trietanolamit (triethanolamide- TEA), dung dịch keo nano bạc, etanol, vitamin E, hương liệu và nước cát. Sáng chế còn đề cập đến quy trình bào chế chế phẩm rửa tay diệt khuẩn dạng gel này, về cơ bản, bao gồm các bước:i) tạo bạc oxalat ($Ag_2C_2O_4$); ii) tạo dung dịch keo nano bạc; iii) tạo chế phẩm rửa tay diệt khuẩn dạng gel; trong đó, điều kiện và thành phần tham gia để thực hiện mỗi bước là như được mô tả trong bản mô tả.	VN

7	VN1-2018-00926	5/3/2018	58297A	KAO CORPORATION (JP)	CHÉ PHẨM TẨY RỬA DIỆT KH UẨN DẠNG LỎNG DÀNH CHO QUẦN ÁO VÀ PHƯƠNG PHÁP GIẶT SỬ DỤNG CHÉ PHẨM NÀY	Sáng chế đề cập đến ché phẩm tẩy rửa diệt khuẩn dạng lỏng dành cho quần áo, có pH nằm trong khoảng từ 8,5 đến 10 ở 25°C và chứa các thành phần (a) đến (d) sau đây:(a) chất hoạt động bề mặt cation; (b) chất hoạt động bề mặt anion; (c) chất kiềm có pKa nằm trong khoảng từ 7,5 đến 11, và (d) nước; trong đó: lượng thành phần (b) là 7,0% khối lượng hoặc nhỏ hơn; tỷ lệ khối lượng của thành phần (b) so với tổng khối lượng thành phần (a) và thành phần (b), (b)/[(a)+(b)], là 0,75 hoặc nhỏ hơn, và khối lượng của polyoxyalkylen alkyl ete sullat (b1) trong chất hoạt động bề mặt anion là 80,0% khối lượng hoặc lớn hơn. Ché phẩm theo sáng chế có hiệu quả diệt khuẩn và có khả năng chảy tốt, và có đặc tính tạo bọt ngay cả khi một lượng nhỏ của chất có hoạt tính bề mặt cation và không có chất diệt khuẩn đặc biệt nào khác. Ngoài ra, sáng chế còn đề cập đến phương pháp giặt bao gồm bước sử dụng ché phẩm này.	CN
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8	VN2-2018-00220	28/10/2016	2-0001865	Trung tâm Nghiên cứu triển khai Khu Công nghệ cao (VN)	CHÉ PHẨM RỬA TAY DIỆT KH UẨN DẠNG GEL VÀ QUY TRÌNH CHÉ TẠO CHÉ PHẨM NÀY	Giải pháp hữu ích để xuất ché phẩm rửa tay diệt khuẩn dạng gel chứa chất tạo gel, trietanolamin (triethanolamine - TEA), dung dịch keo nano bạc, etanol, vitamin E, hương liệu và nước cất. Giải pháp hữu ích còn để xuất quy trình ché tạo ché phẩm rửa tay diệt khuẩn dạng gel bao gồm các bước: i) tạo ra bạc oxalat (Ag ₂ C ₂ O ₄); ii) tạo ra dung dịch keo nano bạc; và iii) tạo ra ché phẩm rửa tay diệt khuẩn dạng gel.	VN
9	VN1-2018-01740	23/04/2018	59237A	OTSUKA PHARMACEUTICAL FACTORY, INC. (JP)	CHÉ PHẨM DIỆT K HUẨN DÙNG CHO DA	Sáng ché để xuất ché phẩm dạng lỏng diệt khuẩn giúp có thể dễ dàng xác định vị trí bôi trong việc diệt khuẩn da tiền phẫu thuật và công việc tương tự, trong đó ché phẩm lỏng này thu được bằng cách tạo màu cho dung dịch nước olanxidin gluconat là chất lỏng không màu và trong suốt. Ché phẩm lỏng diệt khuẩn chứa olanxidin gluconat, chất tạo màu như màu vàng cam FCF (Sunset Yellow FCF), alkyl dimethylamin oxit như lauryl dimethylamin oxit, và tùy ý một hoặc nhiều chất hoạt động bề mặt không phải là alkyl dimethylamin oxit như polyoxyetylen alkyl ete bao gồm lauromacrogol và polyoxyetylen	JP

						polyoxypropylene alkyl ether including polyoxyethylene (20) polyoxypropylene (4) xethyl ether. The product is in the form of Image1 powder, which can help to easily determine the position of the wound during surgery and post-operative care.	
10	VN 1-2018-02658	19.06.2018	67098A	CÔNG TY CP SAO THÁI DƯƠNG	Nước súc miệng và quy trình sản xuất nó	Sáng chế nhằm mục đích để xuất nước súc miệng, trong đó có chứa thành phần được kết hợp với nano bạc có tác dụng vừa giúp chắc răng, khỏe niêm mạc miệng họng vừa diệt vi khuẩn, virus gây bệnh, tăng sức đề kháng cho niêm mạc chống lại các bệnh do vi khuẩn, virus nhiễm trong quá trình sống. Theo khía cạnh thứ nhất, sáng chế đề cập tới nước súc miệng bao gồm các thành phần sau: chiết xuất hạt cau; chiết xuất lược vàng; tinh dầu bạc hà; menthol; nano bạc; các thành phần tá dược/ chất mang được lựa chọn từ nhóm gồm: chất tạo ngọt, chất giữ ẩm, chất nhũ hóa, chất kết dính, chất mài mòn, chất làm đầy, chất hoạt động bề mặt, chất ổn định pH, hương liệu, chất tạo màu, chất điều vị; nước đã khử ion hóa. Tốt hơn nếu nước súc miệng theo sáng chế còn chứa chiết xuất nghệ vàng. Theo khía cạnh thứ hai, sáng chế đề cập tới quy trình sản	

					xuất nước súc miệng bao gồm các bước: a) chuẩn bị pha thứ nhất gồm: các chiết xuất dược liệu, tá dược làm đầy, chất nhũ hóa; b) chuẩn bị pha thứ hai gồm tinh dầu bạc hà, menthol và hỗn hợp hương liệu; c) phối trộn pha thứ nhất và pha thứ hai; d) bổ sung nano bạc đã được bao bì bằng tá dược bao bảo vệ; e) kiểm tra chất lượng, đóng gói		
11	VN 1-2018-02659	19.06.2018	67099A	CÔNG TY CP SAO THÁI DƯƠNG	Nước súc miệng cho trẻ em và quy trình sản xuất nó	Sáng chế nhằm mục đích để xuất nước súc miệng cho trẻ em, trong đó có chứa thành phần dược liệu kết hợp với nano bạc có tác dụng vừa giúp chắc răng, khỏe niêm mạc miệng họng vừa diệt vi khuẩn, virus gây bệnh, tăng sức đề kháng cho niêm mạc chống lại các bệnh do vi khuẩn, virus nhiễm trong quá trình sống. Theo khía cạnh thứ nhất, sáng chế đề cập tới nước súc miệng cho trẻ em bao gồm các thành phần sau: chiết xuất hạt cau; chiết xuất lược vàng; tinh dầu tràm trà; tinh dầu cam; nano bạc; các thành phần tá dược/ chất mang được lựa chọn từ nhóm gồm: chất tạo ngọt, chất giữ ẩm, chất nhũ hóa, chất kết dính, chất mài mòn, chất làm đầy, chất hoạt động bề mặt, chất ổn định pH, hương liệu, chất tạo màu, chất điều vị; nước đã khử ion hóa. Tốt	VN

						hơn nếu nước súc miệng cho trẻ em theo sáng chế còn chứa chiết xuất nghệ vàng. Theo khía cạnh thứ hai, sáng chế đề cập tới quy trình sản xuất nước súc miệng cho trẻ em bao gồm các bước: a) chuẩn bị pha thứ nhất gồm: các chiết xuất dược liệu, tá dược làm đầy, chất nhũ hóa; b) chuẩn bị pha thứ hai gồm tinh dầu tràm trà, tinh dầu cam và hỗn hợp hương liệu; c) phối trộn pha thứ nhất và pha thứ hai; d) bổ sung nano bạc đã được bao bì bằng tá dược bao bảo vệ; e) kiểm tra chất lượng, đóng gói	
12	VN 1-2018-02660	19.06.2018	67100	CÔNG TY CP SAO THÁI DƯƠNG	Kem đánh răng dược liệu và quy trình sản xuất kem đánh răng này	Sáng chế đề cập đến kem đánh răng, trong đó có chứa thành phần dược liệu kết hợp với nano bạc có tác dụng vừa giúp chắc răng, khỏe niêm mạc họng vừa diệt vi khuẩn, virut gây bệnh, tăng sức đề kháng cho niêm mạc chống lại các bệnh do vi khuẩn, virut nhiễm trong quá trình sống. Theo khía cạnh thứ nhất, sáng chế đề cập tới kem đánh răng dược liệu chứa các thành phần sau: chiết xuất hạt cau; chiết xuất lược vàng; tinh dầu được chọn từ nhóm bao gồm tinh dầu bạc hà, tinh dầu tràm trà, tinh dầu cam; menthol; nano bạc; các thành phần tá dược/chất mang được lựa chọn từ nhóm bao gồm: chất tạo ngọt, chất giữ ẩm, chất	VN

						nhũ hóa, chất kết dính, chất mài mòn, chất làm dày, chất hoạt động bê mặt, hương liệu, chất ổn định pH, chất tạo màu, chất điều vị; nước đó khử ion hóa. Tốt hơn nếu kem đánh răng theo sáng chế còn chứa chiết xuất nghệ vàng. Theo khía cạnh thứ hai, sáng chế đề cập đến quy trình sản xuất kem đánh răng được liệu bao gồm các bước: a) chuẩn bị pha thứ nhất gồm: các chiết xuất được liệu, tá dược làm dày, chất nhũ hóa; b) chuẩn bị pha thứ hai gồm tinh dầu được chọn từ nhóm gồm tinh dầu bạc hà, tinh dầu tràm trà, tinh dầu cam, menthol và hỗn hợp hương liệu; c) phối trộn pha thứ nhất và pha thứ hai; d) bổ sung nano bạc đã được bao bì tá dược bao bảo vệ; e) kiểm tra chất lượng, đóng gói	
13	VN 1-2018-02661	19.06.2018	67101A	CÔNG TY CP SAO THÁI DƯƠNG	Kem đánh răng được liệu không chứa sulfat và quy trình sản xuất kem đánh răng này	Sáng chế đề cập đến kem đánh răng không chứa sulfat, trong đó có chứa thành phần được liệu kết hợp với nano bạc có tác dụng vừa giúp chắc răng, khỏe niêm mạc họng vừa diệt vi khuẩn, virut gây bệnh, tăng sức đề kháng cho niêm mạc chống lại các bệnh do vi khuẩn, virut nhiễm trong quá trình sống. Theo khía cạnh thứ nhất, sáng chế đề cập tới kem đánh răng được liệu không chứa sulfat chứa các thành phần sau: chiết xuất hạt	VN

cau; chiết xuất lược vàng; tinh dầu được chọn từ nhóm bao gồm tinh dầu bạc hà, tinh dầu tràm trà, tinh dầu cam; menthol; nano bạc; các thành phần tá dược/chất mang được lựa chọn từ nhóm bao gồm: chất tạo ngọt, chất giữ ẩm, chất nhũ hóa, chất kết dính, chất mài mòn, chất làm đầy, chất hoạt động bề mặt không chứa sulfat, hương liệu, chất ổn định pH, chất tạo màu, chất điều vị; nước đã khử ion hóa. Tốt hơn nếu kem đánh răng theo sáng chế còn chứa chiết xuất nghệ vàng. Theo khía cạnh thứ hai, sáng chế đề cập đến quy trình sản xuất kem đánh răng được liệu không chứa sulfat bao gồm các bước: a) chuẩn bị pha thứ nhất gồm: các chiết xuất dược liệu, tá dược làm đầy, chất nhũ hóa; b) chuẩn bị pha thứ hai gồm tinh dầu được chọn từ nhóm gồm tinh dầu bạc hà, tinh dầu tràm trà, tinh dầu cam, menthol và hỗn hợp hương liệu; c) phối trộn pha thứ nhất và pha thứ hai; d) bổ sung nano bạc đã được bao bì bằng tá dược bao bảo vệ; e) kiểm tra chất lượng, đóng gói.

14	VN 1-2018-02662	19.06.2018	67102A	CÔNG TY CP SAO THÁI DƯƠNG	Gel rơ miệng và quy trình sản xuất nó	Sáng chế nhằm mục đích đề xuất gel rơ miệng, trong đó có chứa thành phần dược liệu kết hợp với nano bạc có tác dụng vừa giúp chắc răng, khỏe niêm mạc miệng họng vừa diệt vi khuẩn, virus gây bệnh, tăng sức đề kháng cho niêm mạc chống lại các bệnh do vi khuẩn, virus nhiễm trong quá trình sống. Theo khía cạnh thứ nhất, sáng chế đề cập tới gel rơ miệng bao gồm các thành phần sau: chiết xuất hạt cau; chiết xuất lược vàng; tinh dầu bạc hà; menthol; nano bạc; các thành phần tá dược/ chất mang được lựa chọn từ nhóm gồm: chất tạo ngọt, chất giữ ẩm, chất nhũ hóa, chất két dính, chất mài mòn, chất làm đầy, chất hoạt động bề mặt, chất ổn định pH, hương liệu; nước đã khử ion hóa. Tốt hơn nếu gel rơ miệng theo sáng chế còn chứa chiết xuất nghệ vàng. Theo khía cạnh thứ hai, sáng chế đề cập tới quy trình sản xuất gel rơ miệng bao gồm các bước: a) chuẩn bị pha thứ nhất gồm: các chiết xuất dược liệu, tá dược làm đầy, chất nhũ hóa; b) chuẩn bị pha thứ hai gồm tinh dầu bạc hà, menthol và hỗn hợp hương liệu; c) phối trộn pha thứ nhất và pha thứ hai; d) bổ sung nano bạc đã được bao bằng tá dược bao bảo	VN
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					vệ; e) kiểm tra chất lượng, đóng gói.	
15	VN 1-2018-04329	02.03.2017	UNILEVER N.V. (NL)	Chế phẩm kem đánh răng và phương pháp vệ sinh răng miệng	Sáng chế đề cập đến chế phẩm kem đánh răng ổn định chứa muối kẽm đem lại hiệu quả kháng khuẩn. Việc cung cấp chế phẩm kem đánh răng có hiệu quả kháng khuẩn mà gia tăng sự chấp nhận bởi người dùng là được mong muốn. Do đó, hoạt tính của muối kẽm trong chế phẩm kem đánh răng được cải thiện và đem lại lợi ích tối đa mà không ảnh hưởng đến các lợi ích khác của chế phẩm kem đánh răng là được mong muốn. Các tác giả sáng chế đã tìm ra rằng chế phẩm kem đánh răng chứa chất mài mòn trên cơ sở canxi và muối kẽm, khi có mặt đất sét smectit và chất đệm đem đến hiệu quả kháng khuẩn của kẽm, với các vấn đề về tính ổn định khi bảo quản là tối thiểu	VN

16	VN1-2019-00721	14/02/2019	64422A	BYOTROL PLC (GB)	CHÉ PHẨM KHÁNG KHUẨN CHỨA: AN, SẢN PHẨM VỆ SINH TAY, SẢN PHẨM CHĂM SÓC VẾT THƯƠNG VÀ KHĂN LAU KHÁNG KHUẨN CHỨA CHÉ PHẨM KHÁNG KHUẨN NÀY	Sáng chế đề cập đến chế phẩm kháng khuẩn chứa:(i) hợp chất có công thức: $[N(CH_3)_3Q_2]^+$ Y- (C2) trong đó Q2 có cấu trúc --(CH ₂) _a NHC(O)(CH ₂) _b CHCH ₂ , trong đó a và b là số nguyên nằm trong khoảng từ 8 đến 18, với điều kiện là mỗi giá trị a và b độc lập là số nguyên nằm trong khoảng từ 1 đến 9, trong đó Y- là anion halogenua, alkylsulphat, sulphonat, sacarinat, hoặc bicachonat, hoặc hỗn hợp của các hợp chất có công thức (C2); (ii) ít nhất một hợp chất amoni bậc bốn kháng khuẩn và clohexidin hoặc muối clohexidin; và (i) dung môi phân cực. Sáng chế còn đề cập đến sản phẩm vệ sinh tay, sản phẩm chăm sóc vết thương và khăn lau kháng khuẩn chứa chế phẩm kháng khuẩn này.	GB
17	IN2013MUM410 1	30/12/2013	IN4101MU2 013	WAGHULDE SANDEEP ONKAR [IN]	NANOSOLVE MOUTH DISP ERSIBLE GRANULES FOR ANTIMIC ROBIAL THER APY	THE PRESENT INVENTION RELATES TO NANOSOLVE MOUTH-DISPERSING GRANULES OF SILVER NANOPARTICLES OF LEMON FRUIT EXTRACT, WHICH DO NOT REQUIRE WATER FOR ORAL ADMINISTRATION AND PROCESS FOR	IN

						PREPARATION THEREOF. THE MOUTH-DISPERSING GRANULES OF THE PRESENT INVENTION USED AS ANTIMICROBIAL AND ANTIBACTERIAL THERAPY	
18	CN19981022119	08.12.1998	CN1256156 (A)	LIU CHUANLIN [CN]	Fully automatic hand-drying and-disinfecting method	The fully automatic hand drying and disinfecting method includes washing hand with water, blowing to dry with hot-wind blower and final spraying Wanfujin'an disinfectant liquid to hand. The method can kill bacteria and virus other than cleaning hand without toxic side effect	CN
19	CN20031016842	07.05.2003	CN1548030 (A)	YANGYANTANG PHARMACEUTICAL CO [CN]	Disinfectant hand-washing liquid and its prepn	The present invention relates to daily used washing article, and is especially disinfectant hand-washing liquid and its preparation. The disinfectant hand-washing liquid consists of propanetriol, surfactant, 2, 4, 4-trichloro-2-hydroxy-diphenyl ether, auxiliary agent, and pure water or distilled water. The surfactant is the combination of two or more of sodium dodecyl sulfate, sodium dodecyl sulfate polyethenoxy ether, betaine and coconut oil biethyl alcohol acrylamine. The auxiliary agent includes preservative, stabilizer,	

						etc. The disinfectant hand-washing liquid has inhibiting and killing effect on pathogenic Gram-positive bacterium, Gram-negative bacterium, fungi, yeast, virus, etc	
20	CN20031039749	08.07.2003	CN1565409 (A)	YANG WEIMING [CN]	Inductive hand washing and sterilization apparatus	The invention relates to an induction type hands washing sterilizing machine, aiming to provide a non-contact type anti-virus infection hand washing sterilizing machine. It is made up of a shell, a sterilizing liquid bottle, an infrared light induction device and a mechanical drive speed changing mechanism. The shell is divided into front cover and back cover, on the top of which a locking hole and a lock are installed, on the side face of which a battery box is installed. A liquid storage nozzle hole, a liquid level display window and an infrared transmitting and receiving double light luminous indicating lamp are installed on the front cover panel of the shell. Circuit board, protecting hood, fixation motor and change gear device are set inside the shell. Fixation hold for hanging and fixing are set on the rear cover	CN

						panel of the shell. The microcomputer control unit, the motor drive circuit and the infrared modulation demodulation are mounted on the circuit. The liquid storage bottle is placed inside of the shell, the nozzle and liquid bottle extend and expose to the outside by the nozzle hole and liquid level display window. It can be widely used in the public and the house	
21	CN20071011539 1	18.12.2007	CN10146176 6 (A)	QINGSHUN HOU [CN]	Antivirus hand-cleaning liquid	The invention relates to anti-virus hand cleaning liquid, in particular to the anti-virus hand cleaning liquid refined by using the effective sterilization components of chitin and polyhexamethylene guanidine as a recipe system and the vegetable essences of sodium lauryl sulphate, alkyl polyglucoside, betaine, cardamomum base propionate, aloe, vitamin E, and the like. The anti-virus hand cleaning liquid is suitable for restaurants, hotels, hospitals, marketplaces, banks, schools, kindergartens, families and office personnel. The anti-virus hand cleaning liquid can also be used as a remedial measure in hospitals, nursing centers, nursery centers, nosheries, kitchens and	CN

						bathrooms after hand cleaning, so as to exterminate possibly existing viruses and pathogenic viruses; in addition, the hand cleaning liquid has the function of dispelling peculiar smell. The anti-virus hand cleaning liquid has the advantages that the hand cleaning liquid is suitable for the sterilization and hand cleaning of people in different groups or with different ages; the hand cleaning liquid has anti-virus hand cleaning, sterilization and skin protection, good stability, and disinfection and odor removal; and the hand cleaning liquid can be carried about and is convenient and practical.	
22	CN20101027605 2	08.09.2010	CN10209099 4B	JINXUE CHENG (CN)	Broad spectrum high-effect nano-silver antibacterial dis infecting snake oil skin-protection hand-washing solution	The invention relates to an antibacterial disinfecting snake oil skin-protection hand-washing solution, belonging to technical field of production and preparation of small products in fine chemical engineering. Silver can kill microorganisms such as bacterial virus fungus and the like, and also can kill 650 types of morbigenous biological bacteria and effective control stubborn bacterial strains and flora; so far, the research finds that no bacteria	CN

						microorganism cannot be killed by silver within 6 minutes in laboratories; and the use amount is low, and the antibacterial action time is long, therefore, the broad spectrum high-effect nano-silver antibacterial disinfecting snake oil skin-protection hand-washing solution is completely safe, reliable, and safe to use	
23	CN20111074961	28.03.2011	CN10269767 7 (A)	YONGZHENG JING; YUHUI JING; JUNRONG LI (CN)	Dedicated plant disinfection hand sanitizer for medical staff	The invention relates to a dedicated plant disinfection hand sanitizer for medical staff. The dedicated plant disinfection hand sanitizer is used for cleaning and disinfecting hands of the medical staff. The invention is characterized by employing edible Chinese herbal medicine ingredients. Effective ingredients of a formula include rhizoma coptidis, liquorice, rhubarb, rhizoma atracylодis macrocephalaе, clove, akebia stem, radix paeoniae alba, buttercup, rhizoma anemarrhenae, cordate houttuynia, alkyl glucoside APG, and tween-80. The hand sanitizer is prepared through special processes. The hand sanitizer has the advantages of: (1) significant disinfection effects, because the killing rate of the product for bacteria,	CN

						fungi, viruses can reach 99.99% according to experiments; (2) simultaneous disinfection and cleaning without any antagonism effects; (3) pure plant Chinese herbal medicine ingredients without stimulation to the skin; and (4) gentle and non-pungent smell.	
24	CN20112027126 3U	28.07.2011	CN20218465 7 (U)	ANHUI WANTOU LITIAN CENTURY AIR PURIFICATION SYS ENG CO LTD (CN)	Plasma sterilization hand-washing station	The utility model discloses a plasma sterilization hand-washing station, which comprises a hand-washing station and a plasma sterilization device. A mirror and a shelf are arranged on the hand-washing station, the plasma sterilization device is mounted at the upper end of the hand-washing station, an air inlet is arranged at the top of the plasma sterilization device, an air outlet of the plasma sterilization device faces downwards, a filter screen, an axial flow fan and a plasma purifier are sequentially mounted between the air inlet and the air outlet of the plasma sterilization device, gas flows into the air inlet, and sterilized gas is exhausted from the air outlet. The plasma sterilization hand-washing station is simple in structure, convenient in installation and use, and is economical and practical, a large	CN

						quantity of harmful pollutants such as bacteria, viruses, mould and the like can be effectively prevented from breeding, air surrounding the hand-washing station is purified, simultaneously, negative oxygen ions beneficial to human bodies can be provided, and effects of oxygenation and refreshing are realized.	
25	CN20111027900 5	20.09.2011	CN10300646 4 (A)	TIANJIN BOKENI TECHNOLOGY DEV CO LTD (CN)	Iodine-containing disinfection hand cleaner without water	The present invention relates to preparation of an iodine-containing disinfection hand cleaner without water, wherein the iodine-containing disinfection hand cleaner without water is characterized by comprising a dodecyl polyglucoside iodine complex, a nonionic surfactant, a zwitterionic surfactant, an organic acid, an organic alcohol, a vitamin, a thickener and purified water. The iodine-containing disinfection hand cleaner is suitable for hand cleaning without water of people in hospitals, banks, finances, restaurants, hotels, service industries and other industries. The iodine-containing disinfection hand cleaner has characteristics of a purple transparent liquid appearance, trace iodine odor, an	CN

						iodine content of 0.2-0.4%, a pH value of 5-7, and no stimulation on human skin and human mucous membrane, and provides good killing effects for staphylococcus aureus, escherichia coli, pseudomonas aeruginosa, bacillus subtilis, hepatitis A virus, hepatitis B virus, HIV, fungi and mold.	
26	CN20111007179	14.10.2011	CN102078275 (A)	HARBIN SANJING PHARMACEUTICAL CO LTD	Shuanghuanglian mouthwash and preparation method thereof	The invention provides Shuanghuanglian mouthwash and a preparation method thereof. The Shuanghuanglian mouthwash is prepared from 1-50g of honeysuckle flower (<i>Ionicera confusa</i>), 0.1-15g of weeping forsythia, 0.1-15g of baical skullcap root, 0.01-1g of menthol crystal, 30-90ml of glycerol, 1-50g of xylitol, 1-20ml of ethanol, 0.05-0.5g of potassium sorbate and 0.01-10ml of essence in proportion by weight. The Shuanghuanglian mouthwash is prepared by taking the honeysuckle flower (<i>Ionicera confusa</i>), the baical skullcap root and the weeping forsythia as main raw materials and adding other raw and auxiliary materials, wherein the baical skullcap root, the honeysuckle flower (<i>Ionicera confusa</i>) and the weeping	CN

forsythia are respectively extracted and concentrated to obtain the extracts. For the Shuanghuanglian mouthwash and the preparation method thereof, a Shuanghuanglian classic formula of the Chinese medicine is applied, and particularly, an extraction process is optimized on the basis of the Shuanghuanglian classic formula of the Chinese medicine, wherein the PH value of an alcoholic solution is regulated in a process for extracting the honeysuckle flower (*Ionicera confusa*) extract and the weeping forsythia extract with the method provided by the invention; thus, the obtained Shuanghuanglian mouthwash has the advantages of high yield, fewer impurities, good taste and clear solution, has a good effect of keeping oral health and can effectively kill oral pathogenic bacteria and various harmful bacteria and viruses, including coronavirus and avian influenza virus. Compared with common gargles made of pure Chinese medicines or western medicines in the market, the Shuanghuanglian mouthwash provided by the invention is

						convenient to prepare and difficult to precipitate after long-term storage, has the advantages of good stability, safety and effectiveness and is an ideal preparation for daily oral care. The preparation method is applicable to industrial production	
27	CN20111036823 8	19.11.2011	CN10312070 7A	JI YING (CN)	Mouth disinfectant prepared by using traditional Chines medicine boat-fruited sterculia seeds	The invention relates to the technical field of mouth sterilization and disinfection, in particular to mouth disinfectant prepared by using traditional Chines medicine boat-fruited sterculia seeds. The disinfectant is composed of 0.05-0.3% of diclosan, 1-10% of glycerol, 1-10% of ethanol and appropriate amount of extracting solution of boat-fruited sterculia seeds, and prepared by a process. The mouth disinfectant prepared by using traditional Chines medicine boat-fruited sterculia seeds is good in mouthfeel, excellent in sterilizing and inflammation-reducing effect and convenient to use	CN

28	CN201110418610	14.12.2011	CN103156800 (A)	ZHANG GUIPING (VN)	Antibacterial and washing-free hand-cleaning liquid	The invention discloses an antibacterial and washing-free hand-cleaning liquid, which is prepared by mainly mixing certain parts by weight of organochlorine, low carbon chain alcohol, Tween, Chinese herbal medicines, essence, and purified water. The product provided in the invention does not consume water, has no need for any scrubbing equipment, play a powerful sterilization role, and is extremely convenient to use. The time of a whole hand washing process is short, and the effects of sterilized and fragrant hands can be realized. The product has no toxic or side effect, is in favor of people's life, work, travel and various activity occasions, and is especially suitable for water shortage situations. Being able to effectively prevent the spread of various viruses and guarantee the health of people, the antibacterial and washing-free hand-cleaning liquid becomes a necessity that is very popular with people all the year round	CN
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29	CN20121030653 6	14.08.2012	CN10287187 3 (A)	QINGDAO SANDING SANITARY PROD (CN)	Fragrance type hand sterili- zer for children	The invention discloses a fragrance type hand sterilizer for children. The hand sterilizer is characterized by being prepared from the following raw materials in part by weight: 2 to 8 parts of Chinese mugwort leaf monoglyceride, 3 to 5 parts of polyoxyethylene, 2 to 5 parts of bactericide, 5 to 10 parts of glycerin, 5 to 10 parts of sodium chloride, 2 to 5 parts of pigments, 2 to 5 parts of solid essence, 5 to 10 parts of coconut acid monoglyceride and 2 to 5 parts of ionized water. The fragrance type hand sterilizer for children is reasonable in formula, low in cost and convenient to use, is fragrant, and has an effect of sterilizing bacteria and viruses	CN
30	CN20141022654 0	26.05.2014	CN10521411 3 (A)	NANJING ZHUANCHUANG INTELLECTURAL PROPERTY SERVICE CO LTD (CN)	Hand-held ultraviolet ray disinfection apparatus	The invention provides a hand- held ultraviolet ray disinfection apparatus. The hand-held ultraviolet ray disinfection apparatus comprises an upper part reflection ultraviolet ray housing (1), a switch (2), a lower part quartz glass sleeve (3), a 254mm ultraviolet sleeve (4), a boost power supply system (5) and a high-capacity chargeable cell (6). The hand-held ultraviolet ray disinfection apparatus is light,	CN

						small and portable and can be used anytime and anywhere. When the disinfection apparatus is used, the switch is turned on, the high-capacity chargeable cell starts power supply, and supplies power for the 254mm ultraviolet lamp tube after boost processing, high-energy ultraviolet rays are emitted, the upper part of the housing can reflect the ultraviolet rays, the ultraviolet rays are utilized fully and human bodies are prevented from direct irradiation, the lower part employs the high-transmittance quartz glass sleeve, and the ultraviolet ray passing rate can reach more than 90%. The high-energy ultraviolet rays penetrate cell membranes of bacteria and viruses and damages nucleic acids (DNA), thus cells lose a reproductive capacity and the effect of rapid sterilization is achieved	
31	CN20141036874 5	30.07.2014	CN10417358 3 (A)	QINGDAO JIZHI ENERGY SAVING ENVIRONMENTAL PROT CO LTD (CN)	Hand disinfectant	The invention provides a hand disinfectant. The hand disinfectant is prepared from the following raw materials in parts by weight: 2-7 parts of cocamidopropyl betaine, 0.6-2 parts of polyvinylpyrrolidone, 0.2-0.6 part of chalcanthite, 0.5-	CN

						1.2 parts of tetrapanax papyriferus, 1-3 parts of cortex lycii radicis, 0.8-2.2 parts of sedum sarmentosum, 2-5 parts of zeolite powder, 1.2-3 parts of dibasic sodium phosphate, 1.5-2.4 parts of acetic acid, 0.8-1.6 parts of 2,3-dihydrobutanedioic acid, 2-7 parts of radix sophorae flavescentis, 1-4 parts of clove, 3-6 parts of sanguisorba officinalis and 0.6-2.4 parts of herba cephalanoplosis segeti. The hand disinfectant has the beneficial effects that the sterilizing and disinfecting effect is good, most bacteria and viruses can be killed, hand cleanliness can be maintained, and a protecting film is formed on hands to prevent entrance of viruses	
32	CN20151084367	13.02.2015	CN10460611 9 (A)	NANTONG SNAKE TREAT RES INST	Sterilizing and disinfecting waterless hand cleaner	The invention discloses a sterilizing and disinfecting waterless hand cleaner, belonging to the technical field of production and preparation of waterless hand cleaners in modern small chemical products. The waterless hand cleaner consists of snake oil and nano-silver with the effects of moistening and protecting skin, terpilenol and methyl silicone oil with the effects of toning and cleaning the skin, soya-bean oil	CN

					<p>and glycerin with the effects of removing dirt and cleaning the skin, pine oil and VE with the effects of effectively decontaminating and moisturizing the skin, white mineral oil and solvent oil with the effects of instantaneously sterilizing, aloe oil and tea tree oil with the effects of protecting the skin, moisturizing and sterilizing, and olive oil and castor oil with broad-spectrum lasting antibacterial effects. The product has the effects of effectively killing various pathogenic bacteria and viruses, moisturizing the skin and protecting the skin, resisting cracks, removing freckles, removing mites and degreasing, is mainly applied to the water and electricity cut-off drought and waterless conditions during anti-inflammatory action and earthquake relief in sudden accidents, is used for cleaning and disinfecting both hands and can effectively kill various pathogenic biological bacteria such as Escherichia coli, staphylococcus aureus, typhoid bacillus, dysentery and cholera in broad spectrum, and the effective sterilization and disinfection rate</p>	
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						is 99.99 percent. When a small amount of cleaner is coated on hands of personnel contaminated by roadside breakdown mechanical paint, both hands can be effectively sterilized and disinfected.	
33	CN20151021359 8	24.04.2015	CN10490598 8 A	NANTONG SNAKEBITE THERAPY RES INST (CN)	Water-free disinfection sterilization hand cleaning cream	The invention discloses water-free disinfection sterilization hand cleaning cream, and belongs to the technical field of preparation production of practical detergent water-free disinfection sterilization hand cleaning cream, and the water-free disinfection sterilization hand cleaning cream comprises strongly antiviral menthol propylene glycol, broad-spectrum antibacterial and oil-removing betaine light wax oil, bacteria and virus-killing sodium silicate, skin-care and crack-resisting gynostemma snake oil, oil-dirt-removing and health care coconut oil and tea tree oil, hospital-prepared oleic acid lavender, bentonite and other heavy oil-dirt-removing hand disinfection Chinese herbal medicines. The water-free disinfection sterilization hand cleaning cream product uses matters which are completely	CN

						non-toxic, non-stimulating, and non-residue, is simple and convenient to prepare, and cheap in materials, can quickly remove hand oil dirt, coke oil, paint and other dirt, has good lubrication performance, strong decontamination, sterilization, disinfection, moisturizing, moisturizing, and anti-cracking effects during rubbing and wiping, is especially suitable for earthquakes, landslides, water break, electricity break, car break down, driver repair and mechanical painters, and is convenient to take and use like vanishing cream	
34	CN20161036701 5	30.05.2016	CN10744092 5 (A)	JIANGSU SANYI SINYI PHARMACEUTICAL CO LTD (CN)	Preparation method for hand- washing- free disinfectant	The invention discloses a preparation method for a hand-washing-free disinfectant and belongs to the field of disinfectants. The hand-washing-free disinfectant comprises raw materials of 70.0-71.0% of medical alcohol, 0.8% of chlorhexidine acetate, 27.0-28.0% of water, 0.2% of sorbitan monostearate, 0.1% of polyoxyethylene dehydration sorbierite fatty acid ester, 0.4% of medicinal glycerin, 0.2% of dipropylene glycol, 0.1% of silver nitrate, 0.1% of pigment and 0.1%	CN

						of essence. An appropriate amount of trichlorine alkylol amine, tartaric acid and citric acid are not included in the percentage of the reaction raw materials. The preparation method has the advantages that general equipment is used, the process is simple, and the product quality is excellent; the hand-washing-free disinfectant is used for ICU rooms and general wards, when the hand-washing-free disinfectant is used after hand drying, a variety of viruses such as G+ bacteria, G-bacteria and mycobacterium tuberculosis can be quickly and effectively killed, and 6-hour long-term residual activity is achieved; and the skin can be efficiently protected, the weak acidic formula accords with the weak acidic environment of the skin surface, and water and flushing are not needed	
35	CN201610768130	30.08.2016	CN106214573 (A)	UNIV SHANDONG QILU HOSPITAL (CN)	Medical hand-washing-free skin care disinfectant and preparation method thereof	The invention discloses a medical hand-washing-free skin care disinfectant and a preparation method thereof. The medical hand-washing-free skin care disinfectant comprises, by weight, hydrogen peroxide, tea tree oil, hyaluronic acid, mannitol, stearic acid, glycerin, triethanolamine,	CN

						kathon, p-hydroxybenzoic acid, medical alcohol, traditional Chinese medicine extract and the like which serve as active components. The disinfectant can rapidly and effectively kill various bacteria and viruses on palms and among fingers, is remarkable in bacteria killing effect, convenient to use and carry, safe and efficient, and is nonpoisonous and non-irritating to the normal skin as the pH (potential of hydrogen) value of the disinfectant is approximate to that of the skin, and people can wash hands with the disinfectant without water and clean two hands at any time and in any places	
36	CN20171089170 8	27.09.2017	CN10766966 7 (A)	WEIFANG TIANCHEN BIOTECHNOLOGY CO LTD	Nursing-type hand-washing disinfectant preparation	The invention provides a nursing-type hand-washing disinfectant preparation. The nursing-type hand-washing disinfectant preparation is prepared from, by weight, 0.3-0.5% of chlorhexidine acetate, 0.1-0.2% of benzalkonium bromide, 0.1-0.3% of trichloro hydroxydiphenyl diethyl ether, 0.05-0.12% of polyethylene glycol, 0.2-6% of oil for injection, 6-30% of emulgator, 10-30% of ethyl alcohol, 0.05-2.0% of pH regulator, 1-10% of	CN

						surface active agent and the balance distilled water, wherein the pH of the pH regulator is 6-7. The preparation can effectively play the killing effect on staphylococcus aureus, escherichia coli, candida sporogenes and human immunodeficiency virus, meets the strict disinfecting requirement and has no irritation to the skin	
37	CN20181146471	08.09.2018	CN108703921 (A)	SHANDONG ZHUOJIAN MEDICAL TECH CO LTD	Quick-dry hand disinfection fluid for viruses on children	The invention discloses quick-dry hand disinfection fluid for viruses on children. The quick-dry hand disinfection fluid comprises, by weight, 0.1%-0.2% of hydrogen peroxide, 50%-60% of medicinal alcohol, 1.0%-1.5% of PEG-7 (polypropylene glycol-7) glyceryl coconate, 0.01%-0.05% of sodium hyaluronate, 0.001%-0.005% of green tea extract, 0.2%-0.5% of sorbitan monostearate, 1.0%-1.5% of medical glycerin, an appropriate quantity of citric acid and the balance purified water. The quick-dry hand disinfection fluid has the advantages that the green tea extract of the quick-dry hand disinfection fluid contains abundant tea polyphenol, accordingly, clostridium botulinum and spores can be	CN

						killed, the activity of bacterial exotoxin can be inhibited, and antibacterial effects can be realized for diversified pathogens which can cause diarrhea and respiratory tract and skin infection; the quick-dry hand disinfection fluid comprises the sodium hyaluronate which is a natural moisture retention lubricant, and accordingly skin injury due to the quick-dry hand disinfection fluid can be reduced to a great extent; the viruses can be quickly killed by the quick-dry hand disinfection fluid in a formula after hands are dried, bacteria can be inhibited in a long-acting manner for 6 hours, skin can be efficiently protected, and the quick-dry hand disinfection fluid in the weak acidity formula is good in fusion property with the skin	
38	CN20181110355 4	20.09.2018	CN10909159 8 (A)	AN ZHIMING (CN)	Mouth nursing liquid and processing process thereof	The invention discloses a mouth nursing liquid which is made of aloe, red fruit fig-tree leaves, strigose hydrangea juvenile leaves, honeysuckle, poria cocos, ampelopsis japonica, mint, walnut kernels, glossy privet fruits, honey, hawthorns, cassia seeds, allantoin, white lithospermum, white peony roots, sorbitol and	CN

						licorice roots. The mouth nursing liquid is reasonable in formula, and is capable of effectively regulating yin and yang balance of bodies, dispersing the liver and rectifying qi, clearing off liver heat, fundamentally inhibiting propagation of mouth pathogenic bacteria and effectively removing viruses, long-term mouth health can be maintained, and mouth diseases are not liable to reoccur.	
39	JP19920284194	22.10.1992	JPH06135840 (A)	ASAHI OPTICAL CO LTD (JP)	CLEANING DISINFECTANT FOR MOUTH, COAT AND INJURY	To obtain a cleaning disinfectant for mouth, coat and injury capable of removing bacteria, viruses and their dead body. CONSTITUTION: A cleaning disinfectant for mouth, coat and injury comprises 0.01-5wt.% calcium phosphate-based compound particles having the molar ratio of Ca/P of 1.0-2.0 in water. The cleaning disinfectant may be used with another germicidal disinfectant.	JP
40	JP20020355701	06.12.2002	JP2004189613 (A)	ANTISEPTICA CHEMISCH PHARMAZEU (JP)	HAND DISINFECTANT BASED ON LOWER MONOALCOHOL	To provide a hand disinfectant suggesting a relatively high water content in one aspect and having a flash point exceeding 21°C and not only resisting bacteria and fungi but also having a complete action spectrum against viruses having an	JP

						envelope including Norwalk viruses and viruses without having the envelope. ;SOLUTION: The hand disinfectant is based on a lower monoalcohol having an amount of an added synergistic agent. The hand disinfectant comprises a 50-60 vol.% aqueous solution of ethanol and/or n-propanol and one or more kinds from the group of a diol or thiocyanic acid and has the flash point above 21°C and a value of pH2.4-3.2	
41	JP20030135472	14.05.2003	JP200433910 3A	FUJII MASASHI (JP)	SKIN EXTERNAL PREPARATION AND MOUTH WASH FOR PREVENTION OF CORONAVIRUS INFECTION	To provide a skin external preparation and a mouth wash which prevent coronavirus infection. ;SOLUTION: The skin external preparation and the mouth wash which prevent coronavirus infection comprise at least one kind of 0.01 wt.% to 1.0 wt.% 2,4,4'-trichloro-2'-hydroxydiphenyl ether (popular name: trichlosan), 0.1 wt.% to 10.0 wt.% ethylene glycol monophenyl ether (popular name: phenoxethol or phenoxyethanol), and 0.01 wt.% to 0.5 wt.% 3-(4-chlorophenoxy)-1,2-propanediol (popular name: chlorphenesin). The skin external preparation and the mouth wash inactivate	JP

						the coronavirus of the severe acute respiratory syndrome (SARS) and disinfect fingers and the mouth.	
42	JP20030436665	18.12.2003	JP2005177415 (A)	SHIRAISHI YASUTAKA (JP)	HAND DRYER HAVING STERILIZATION AND DISINFECTION FUNCTION BY OZONE	To offer a hand dryer having the function of sterilizing and disinfecting various germs and a virus, which adhere to the hand, with ozone generated simultaneously with drying of the hand by applying a nature of ozone to the hand dryer. ;SOLUTION: By sterilizing various germs and a virus in air or warm air, which is sent out through a ventilation path (4) from a blower, within the ventilation path (4) by ultraviolet light radiated from an ultraviolet lamp (7) and at the same time by forming and sending out ozone, the hand inserted from a hand inserting slot (1) is dried and at the same time sterilization and disinfection of the hand can be performed by ozone formed in air or warm air.	JP

43	KR20090011179 U	27.08.2009	KR20110002 182 (U)	KR	A hand sterilizer infected with virus or bacillus	The present invention relates to a disinfecting device capable of effectively killing contaminated bacteria and viruses in a short time by washing a person's hand using ozone gas. The present invention has a structure in which the ozone gas generator and the ozone gas are effectively sprayed into a container into which a hand enters and absorbed again to circulate, thereby preventing the ozone gas from leaking easily and increasing the concentration of ozone for a short time (within 5 seconds). It is composed of ozone generator, ozone circulation pipe, ozone circulation pump, and hand input box to have high sterilization capacity in), and it is characterized in that ozone gas does not leak out even if you put your hand in disinfection of viruses and bacteria.	KR
44	RU20130106682	15.02.2013	RU2523560 (C1)	BRYNTSALOV A AOZT [RU]	DISINFECTANT ANTISEPTIC AGENT IN GEL FORM FOR CARE OF HAND SKIN	agent comprising ethanol, glycerol, Carbopol ultrese and softened water according to the invention comprises aminomethylpropanol, essential oil selected from the group: eucalyptus essential oil, lemon essential oil, peppermint essential oil, anise essential oil, jasmine essential oil with the following	RU

						ratio of components in g per 100 g of gel: ethanol 65.0-66.0; glycerol 1.0-2.0; Carbopol ultrese 0.16-0.18; aminomethylpropanol 0.06-0.08; essential oil 0.005-0.03; softened water - up to 100.0.EFFECT: invention has a high antimicrobial activity against pathogenic bacteria, fungi and viruses and provides safety for life and health of people without causing allergy.4 cl, 4 ex	
45	VN2-2003-00076	4/9/2003	2-0000562	Nguyễn Thị Thu Hà (VN)	MÁY TRỢ THỞ TẠO ÁP LỰC DƯƠNG LIỀN TỤC	Giải pháp hữu ích để cập tối máy trợ thở tạo áp lực dương liên tục dùng trợ giúp những bệnh nhân gặp khó khăn trong việc hô hấp (suy hô hấp) bao gồm hai lưu lượng ké (1) và (2) được bố trí song song với nhau trên hai ống dẫn khí độc lập nhằm kiểm soát lượng khí nén và oxy đầu vào. ống dẫn khí được nối trực tiếp với một bình trộn khí kín (3) được thiết kế có thể tích ứng với áp lực dao động từ 6897,24 KPa tới 827668,8 KPa. Tại đây, khí trộn được làm ấm và ẩm, sau đó, lượng nước dư thừa trong không khí sẽ được làm lắng đọng lại ở bộ phận làm ngưng đọng (4) hình xoáy tròn ốc. Một bãy nước (5) được thiết kế để có thể đón bắt lượng nước thừa trong quá trình truyền tối bệnh nhân. Tại đây, một bộ cảm ứng nhiệt (8)	VN

						được nối liền với một bộ điều khiển điện tử giúp để điều khiển tự động nhiệt độ trong bình trộn khí kín (3). Sau đó, khí sẽ tiếp tục được duy trì nhiệt độ thông qua các dây dẫn nhiệt nằm trong hệ thống các ống dẫn khí trước khi được truyền vào cơ thể của bệnh nhân. Ở giai đoạn đầu ra, một bình CPAP (6) có thiết kế cột kiểm soát áp lực (10) và cột đo áp lực (11) nhằm đánh giá và điều chỉnh một cách chính xác nhất áp lực không khí cung cấp tới bệnh nhân	
46	VN1-2007-02741	20/12/2007	17099A	NOVEKO INC.(CA)	BỘ KHÍ DIỆT KHUẨN LỌC	Sáng chế đề cập đến bộ lọc khí diệt khuẩn (10) để sử dụng cho rãnh dẫn khí, bao gồm mạng lưới cố định (12) gồm nhiều sợi (20) chứa lượng của ít nhất một tác nhân diệt vi khuẩn được kết hợp và liên kết phân tử với cấu trúc của chúng đủ để gần như cố định, duy trì và ít nhất gây úc chế sự phát triển hoặc thường là tiêu diệt các vi khuẩn lơ lửng trong không khí chuyển động qua rãnh dẫn khí. Mạng lưới cố định (12) gần như thấm được không khí. Mặt nạ che mặt diệt khuẩn (24) và bộ lọc khí diệt khuẩn (10) được dùng trong hệ tuần hoàn khí (40) sử dụng mạng lưới cố định (12) cũng được bọc lót.	US

47	VN1-2010-03018	8/8/2009	1-0013756	SEATTLE CHILDREN'S HOSPITAL d/b/a SEATTLE CHILDREN'S RESEARCH INSTITUTE (US)	THIẾT BỊ TRỢ GIÚP THở CÓ ĐIỀU CHỈNH ÁP SUẤT	Sáng chế đề cập đến thiết bị trợ giúp thở có điều chỉnh áp suất. Thiết bị theo sáng chế có thể tạo ra các dao động áp suất có biên độ cao, phô tần số dài rộng thấp và khoảng thời gian dài. Ngoài ra, thiết bị này có thể duy trì áp suất khí đạo trung bình của bệnh nhân ở một hoặc nhiều mức được kiểm soát. Thiết bị này có thể kiểm soát biên độ dao động, khoảng tần số và thành phần, khoảng thời gian, và mức áp suất khí đạo trung bình bằng cách điều chỉnh các thông số thiết bị nhất định, như góc và độ sâu của thiết bị trong chất lưu.	US
48	VN1-2013-01981	10/11/2010	35493A	SEATTLE CHILDREN'S HOSPITAL d/b/a SEATTLE CHILDREN'S RESEARCH INSTITUTE (US)	Thiết bị trợ thở	Sáng chế đề cập đến thiết bị trợ thở. Thiết bị theo sáng chế có thể tạo ra các dao động áp suất có biên độ cao, phô tần số dài rộng thấp và khoảng thời gian dài. Ngoài ra, thiết bị này có thể duy trì áp suất khí đạo trung bình của bệnh nhân ở một hoặc nhiều mức được kiểm soát. Thiết bị này có thể kiểm soát biên độ dao động, khoảng tần số và thành phần, khoảng thời gian, và mức áp suất khí đạo trung bình bằng cách điều chỉnh các thông số thiết bị nhất định, như góc và độ sâu của thiết bị trong chất lưu.	US

49	VN1-2014-02405	21/07/2014	1-0021420	CAPNIA, INC. (US)	THIẾT BỊ VÀ PHƯƠNG PHÁP PHÂN TÍCH NỒNG ĐỘ KHÍ TRONG HƠI THỞ	Sáng chế đề cập đến phương pháp và thiết bị phân tích nồng độ chất trong hơi thở của bệnh nhân. Thiết bị này có thể bao gồm khoang chứa mẫu, bộ phận phân tích tốc độ thở, bộ phận phân tích khí, và bộ xử lý. Khoang chứa mẫu bao gồm cửa nạp tiếp nhận hơi thở. Bộ phận phân tích tốc độ thở xác định tốc độ của một phần hơi thở. Bộ phận phân tích khí xác định nồng độ khí. Bộ xử lý bao gồm thuật toán xác định mức độ không đồng nhất của mẫu trên cơ sở tốc độ, và nồng độ khí đã hiệu chỉnh trên cơ sở mức độ không đồng nhất này. Theo một số phương án, sự hiệu chỉnh khí được xác định không phụ thuộc vào sự phối hợp của bệnh nhân. Thiết bị có thể được điều chỉnh trên cơ sở khoảng kiều thở dự định của bệnh nhân mong muốn sao cho khoang chứa mẫu được nạp mẫu khí ở cuối kỳ thở ra đồng nhất bất kể kiều thở của từng bệnh nhân. Sáng chế cũng đề cập đến phương pháp xác định nồng độ chất trong hơi thở của bệnh nhân.	US
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50	VN1-2015-02810	3/8/2015	44352A	CAPNIA, INC. (US)	THIẾT BỊ VÀ PHƯƠNG PHÁP PHÂN TÍCH HƠI THỞ	Sáng chế đề cập đến phương pháp và thiết bị để thu nhận và phân tích mẫu khí từ phàn khí mong muốn trong hơi thở của người, trong khi có tính đến các kiểu thở không ổn định, từng hồi hoặc kích thích khác mà có thể theo cách khác khiến cho việc lấy mẫu khí từ phàn khí mong muốn trong hơi thở trở nên khó khăn. Các kỹ thuật này có thể thu được các mẫu khí tin cậy hơn, chính xác hơn và đầy đủ hơn như khí ở cuối kỳ thở, và cuối cùng, phân tích chính xác mẫu thu được.	US
51	VN1-2015-02942	13/08/2015	50545A	Công ty TNHH Chuyên giao công nghệ & Dịch vụ y tế (MTTS)	THIẾT BỊ TRỢ THỞ	Sáng chế đề cập đến thiết bị trợ thở dùng cho trẻ sơ sinh, trong đó thiết bị này bao gồm màn hình hiển thị (1) được sử dụng để điều chỉnh và hiển thị thông tin lâm sàng, màn hình hiển thị nồng độ oxy (2) được sử dụng để điều chỉnh và hiển thị thông tin lâm sàng liên quan đến nồng độ oxy, vỏ thiết bị (3), trong đó bao gồm nguồn điện, bảng mạch, và một bộ trộn điều khiển điện tử có chức năng lọc và pha trộn không khí và oxy đạt đến thông số kỹ thuật của người dùng, máy nén không khí (4) cung cấp một nguồn không khí cho việc điều trị, các mạch thở làm ấm (5) mang không khí từ bộ tạo độ ẩm (6) cho bệnh nhân,	VN

						buồng tạo áp lực (7) cung cấp áp lực dương tích cực cho bệnh nhân và cống kết nối đo nồng độ oxy (8) cho phép gắn cáp mở rộng đo nồng độ oxy và cảm biến vào thiết bị.	
52	VN1-2015-03275	7/9/2015	44739A	CAPNIA, INC. (US)	THIẾT BỊ LẤY MẪU VÀ PHÂN TÍCH HƠI THỞ VÀ PHƯƠNG PHÁP PHÂN TÍCH HƠI THỞ	Sáng chế đề cập đến thiết bị lấy mẫu và phân tích hơi thở và phương pháp phân tích hơi thở một hoặc nhiều mẫu khí thở của người. Giải pháp theo sáng chế giải quyết các vấn đề khác nhau liên quan đến hơi thở đích cần phân tích và cho phép bổ sung các lựa chọn linh hoạt trong quá trình phân tích.	US
53	VN1-2017-05286	27/12/2017	57017A	Công ty TNHH thương mại và dịch vụ kỹ thuật Việt Thái (VN)	MÁY TRỢ THỞ ÁP LỰC DƯƠNG LIÊN TỤC	Sáng chế đề xuất máy trợ thở áp lực dương liên tục, khác biệt ở chỗ: Bộ điều khiển điện tử (A) được bố trí để giám sát các tín hiệu thu được từ các cảm biến áp suất (11 và 21) trên các đường ống dẫn không khí và khí oxy (1 và 2) cũng như điều khiển và hiển thị các tín hiệu thu được từ bộ phân gia nhiệt (7) và cảm biến nhiệt độ (8) của dòng khí thở, trong đó bộ điều khiển điện tử (A) gồm có mạch điện tử có chíp vi xử lý, được thiết kế và nạp chương trình sao cho có thể đọc được các tín hiệu từ hai cảm biến áp suất (11 và 21) và	VN

					cảm biến nhiệt độ (8) nêu trên, chuyển đổi thành giá trị áp suất và nhiệt độ tương ứng, so sánh với các giá trị áp suất và nhiệt độ đã định		
54	VN2-2018-00322	13/08/2015	2-0001883	Công ty TNHH Chuyên giao công nghệ và Dịch vụ y tế (VN)	THIẾT BỊ TRỢ THỞ ÁP LỰC DƯƠNG LIÊN TỤC	<p>Giải pháp hữu ích để cập nhật thiết bị trợ thở áp lực dương liên tục dùng cho trẻ sơ sinh, trong đó thiết bị này bao gồm màn hình hiển thị (1) được sử dụng để điều chỉnh và hiển thị thông tin lâm sàng, màn hình hiển thị nồng độ oxy (2) được sử dụng để điều chỉnh và hiển thị thông tin lâm sàng liên quan đến nồng độ oxy, vỏ thiết bị (3), trong đó bao gồm nguồn điện, bảng mạch, và một bộ trộn điều khiển điện tử có chức năng lọc và pha trộn không khí và oxy đạt đến thông số kỹ thuật của người dùng, máy nén không khí (4) cung cấp một nguồn không khí cho việc điều trị, các mạch thở làm ấm (5) mang không khí từ bộ tạo độ ẩm (6) cho bệnh nhân, buồng tạo áp lực (7) cung cấp áp lực dương tích cực cho bệnh nhân và cổng kết nối đo nồng độ oxy (8) cho phép gắn cáp mở rộng đo nồng độ oxy và cảm biến vào thiết bị</p>	VN

55	AU20180201975	20.03.2018	AU20182019 75 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	A patient interface for supplying respiratory gases to a user is described. The patient interface may be used in a humidified CPAP system for supplying humidified gases to the user. The patient interface comprises a mask body and a seal assembly. The seal assembly includes a flexible seal and a rigid seal clip, the seal assembly being removably attached to the mask body via the rigid seal clip. The mask body and rigid seal clip are profiled to match the contours of a user's face so that the seal has a substantially constant wall depth	AU
56	AU20180203137	07.05.2018	AU20182031 37 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS WITH SERVICEABILITY FEATURES	A breathing assistance apparatus is configured with features that improve serviceability of the apparatus. The apparatus can include animations to provide instruction regarding correcting easily-identified fault conditions and to provide instruction regarding routine maintenance routines. The apparatus also can be configured with top level control menus that are obscured in a manner to limit manipulation of the top level control elements by unauthorized users.	AU

57	AU20180202409	05.04.2018	AU2018202 409 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	Headgear for use with a respiratory mask is described. The headgear comprises a continuous and substantially curved elongate member extending in use below a user's nose and at least two headgear straps capable of attachment to the ends of the elongate member. 5 A mask attachment on the elongate member is disposed to sit below or on one of said user's nose, mouth, upper lip and an inlet to the mask. The attachment is capable of receiving the mask	AU
58	AU20180292722	26.06.2018	AU20182927 22 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	Respiratory mas k system	A respiratory mask system includes a mask interface and a headgear assembly. The headgear assembly is adjustable and comprised of an elastic portion, a non-elastic portion and a restriction mechanism configured to provide a force resisting movement of the non-elastic portion when the elastic portion is extended. There is a support beam coupled to the non- elastic portion and extending along a portion of the headgear that is curved along its longitudinal extent. In this way particular seal modules can be comfortably fitted to a user and any blow off force is mitigated. A particular example of the	US

						respiratory mask system includes provision for removable attachment between the seal and a mask frame, the mask frame and a yoke of the headgear; and between a conduit and the mask frame.	
59	AU20190280016	12.12.2019	AU20192800 16 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	Headgear for use with a respiratory mask is described. The headgear comprises a continuous and substantially curved elongate member extending in use below a user's nose and at least two headgear straps capable of attachment to the ends of the elongate member. 5 A mask attachment on the elongate member is disposed to sit below or on one of said user's nose, mouth, upper lip and an inlet to the mask. The attachment is capable of receiving the mask	AU
60	AU20190283818	17.12.2019	AU20192838 18 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	CONTROL OF FLOW AND/OR PRESSURE PROVIDED BY BREATHI NG APPARAT US	The invention comprises a method of operating a breathing apparatus comprising measuring a baseline breath flow parameter being respiratory rate and/or tidal volume or a parameter derived therefrom, varying the flow rate provided by the breathing 5 apparatus, measuring a current breath flow parameter being respiratory rate and/or tidal	AU

						volume or a parameter derived therefrom, comparing the baseline and current breath flow parameters, and altering operation of the breathing apparatus based on the comparison. The invention also comprises a breathing apparatus that implements the above method	
61	AU20190283933	19.12.2019	AU20192839 33 (A1)	LUNGPACER MEDICAL INC (AU)	Apparatus and methods for assisted breathing by transvascular nerve stimulation	A catheter may include electrodes for transvascular nerve stimulation. The electrodes may be positioned within lumens of the catheter and aligned with apertures in the outer wall of the catheter. The electrodes may produce focused electrical fields for stimulation of one or more nerves. In one embodiment, the catheter may include a set of proximal electrodes and a set of distal electrodes, and the proximal electrodes may stimulate a patient's left phrenic nerve and the distal electrodes may stimulate a patient's right phrenic nerve. FIG.IIA	AU

62	AU20200201171	19.02.3020	AU20202011 71 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	A device is for use as part of a breathing assistance system for providing gases to a user. The device may include a fan, an enclosure for receiving a humidification chamber or both. A controller in the device may have one or more features relating to a user interface of the device. The humidification chamber is received in the enclosure and the enclosure includes a patient outlet that connects to a breathing circuit.	AU
63	AU20200202086	24.03.2020	AU20202020 86 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	RESPIRATOR Y ASSISTANC E APPARATUS	A head-mounted respiratory assistance apparatus configured to provide a respiratory gases stream to a user. The head-mounted respiratory assistance has a main body securable to the head of a user and a blower unit that is operable to generate a pressurised gases stream from a supply of gases from the surrounding atmosphere. A patient interface is provided on the main body that has a gases inlet which is fluidly connected to the blower unit and which is configured to deliver the pressurised gases to the user's nose and/or mouth. U) cu) Z--S	AU

64	CA20072597861	23.08.2007	CA2597861 (A1)	FOGARTY RICHARD [CA]	FIT TESTING N95 RESPIRATORS	When Severe Acute Respiratory Syndrome (SARS) outbreak occurred in Toronto in 2003 a large number of hospitals throughout North America and Europe purchased and trained employees on using class N95 respirators in preparation of a potential outbreak in their area. These respirators require fit testing to ensure that they are the proper size and have a "tight face to mask" seal. Current quantitative fit testing for N95 respirators use a condensation particle counter (CPC), in combination with an additional instrument, that alters the size range of the ambient particles used for the fit test measurements. Therefore the only particles used are particles that can be trapped by class 95 filters. This fit testing process slows the normal respirator fit test time when using the CPC test instrument alone. The objective of this invention is to provide a process that allows N95 respirators to be quantitatively fit tested without the use of an additional instrument that alters the size range of the ambient particles. We are not aware of any other inventions that	CA
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						aim to reduce the fit testing time of quantitative fit testing N95 respirators using CPC technology. This invention aims to quantitatively fit test N95 respirators as quickly as N100 respirators	
65	CA20173040975	20.10.2017	CA3040975 (A1)	NOVARESP TECH INC [CA]	METHOD AND APPARATUS FOR BREATHING ASSISTANCE	Various embodiments are described herein for devices, methods and systems for a breathing assistance device controller for controlling the operation of a breathing assistance device that provides breathing assistance to a user. The controller may include sensors for measuring airflow parameters of the airflow and generating measured signals; and a processor that is electronically coupled to the sensors to receive the measured signals and to generate a control signal based on the measured signals and at least one characteristic of the user's respiratory system to adjust the operation of the breathing assistance device during use	US

66	CN20032017763 U	06.06.2003	CN2631528 (Y)	SHANDONG CHEST HOSPITAL [CN]	Breathing valve of self controlled mask	The utility model discloses an autonomous mask breath valve. The mask valve port of the triple valve body provided with an air inlet valve port, an air outlet valve port and a mask valve port, is positioned with a breath face mask and a breath nasal mask. The air inlet valve port is provided with a one-way air-inlet fish-mouth valve therein, which can open towards the valve intracavity. The air outlet valve port is provided with a one-way air-outlet fish-mouth valve therein, which can open backwards to the valve intracavity. The utility model has the function of one-way inhaling mixed gas of fresh air and oxygen into the human body and one way transmitting the exhaled air into the disinfection equipment so that the task of preventing the spread of the virus can be achieved	CN
67	CN20181032158 1	21.04.2017	CN10857885 4 (A)	CHEN YULAN (CN)	Breathing assisting device	The invention discloses a breathing assisting device. The breathing assisting device comprises an air bottle, an oxygen bottle, an adjusting valve, a gas mixing room, a breathing head hood, a breathing sound collecting device, an ultrasonic image device and a controller. For the breathing	CN

						assisting device, the breathing assisting service can be accurately provided for a patient according to the real-time body information of the patient.	
68	CN20171116059 4	20.11.2017	CN10792990 5 (A)	CHEN YULAN (CN)	Breathing assisting device convenient to fix and install	The invention relates to a breathing assisting device convenient to fix and install. The breathing assisting device convenient to fix and install comprises an installing groove, a supporting plate, a second padding block, a rotating bearing, second fastening blots and an air inlet pipe, wherein first fastening bolts penetrate through the inside of the installing groove, first fastening padding blocks are fixed at the bottom ends of the first fastening blots, a stretchable column is arranged at the upper end of the middle of the installing groove, an adjusting bolt is installed on the stretchable column, the supporting plate is located on the stretchable column, a buffering spring is installed on the supporting plate, a chin support is arranged on the buffering spring, a first padding block is arranged inside the chin support, the	CN

						rotating bearing is located on the left side of the chin support, a rotating shaft is arranged on the rotating bearing, a connecting rod is arranged at the left end of the rotating shaft, and a cover is fixed at the left end of the connecting rod. The breathing assisting device convenient to fix and install has the advantages that the first fastening blotsare arranged, and fastening and installing between the first fastening padding blocks and the table top can be carried out by rotating the first fastening bolts	
69	CN201810676010	26.06.2018	CN108744199 (A)	CHENGDU SHANGZHI HENGDA TECH CO LTD (CN)	Medical respiration assisting device	The invention discloses a medical respiration assisting device. The medical respiration assisting device comprises a respiration device shell and is characterized in that an air collecting hood is arranged at the center of the front side of the respiration device shell in a communicated manner, a filter screen is mounted at the bottom of the air collecting hood in an embedded manner, a position, corresponding to the position the filter screen, inside the respiration device shell is provided with an air collecting cover, a fan is arranged inside the air collecting cover, an air outlet	CN

						tube extending to the top of the respiration device shell is arranged at the end of the air collecting cover in a communicated manner, and a first water tank sleeves the outer wall, located inside the respiration device shell, of the air outlet tube. The medical respiration assisting device has the advantages that a second water tank is arranged inside the respiration device shell, a water pump is arranged inside the second water tank, the water pump is connected with a sprayer inside the air outlet tube through a soft tube, and accordingly air humidity can be increased by using the water pump to spray water into the air outlet tube when a patient uses the medical respiration assisting device; in addition, the medical respiration assisting device is simple in structure and high in practicality.	
70	CN20182134789 6U	21.08.2018	CN20894315 2 (U)	FENG XIULI (CN)	Breathing assisting device with heating device	The utility model discloses a breathing auxiliary device with a heating device. The oxygen bottle comprises an outer shell, a bacterium filter and an oxygen bottle body arranged on one side of the outer shell. the oxygen bottle body is connected with a first gas pipe through a valve	CN

body; one end of the first air pipe is connected to a bacteria filter; the heating shell is connected with a secondwater inlet pipe and a second water outlet pipe, a heater is arranged at the bottom of the heating shell, one end of the fourth air pipe is connected with an air suction hood, an air suction valve isarranged in the air suction hood, and a display corresponding to the oxygen concentration sensor is further arranged at the top of the outer shell. Oxygen in the first air pipe is sterilized under the action of the bacteria filter, the humidifier shell is used for humidifying the oxygen, the oxygen concentration sensor is used for detecting the oxygen concentration, the oxygen concentration is displayed through the display, a patient is prevented from directly inhaling low-temperature oxygen, and stimulation reaction caused by temperature difference cannot be generated

71	EP20180798144	11.05.2018	EP3634555 (A1)	RESMED PTY LTD [AU]	METHODS AND APPARATUS FOR TREATMENT OF RESPIRATORY DISORDERS	Disclosed are methods, apparatus and systems for treating a respiratory disorder in a patient. The apparatus comprises a pressure generator configured to generate a flow of air so as to provide ventilatory support to the patient; a transducer configured to generate a flow signal representing a property of the flow of air; and a controller configured to analyse the flow signal to estimate the inspiratory volume and the expiratory volume of a breath of the patient and servo-control the degree of ventilatory support to adjust an estimated tidal volume toward a target tidal volume. A gain of the servo-control is dependent on a difference between the estimated inspiratory volume and the estimated expiratory volume. The method comprises operating an apparatus or system in a similar manner.	AU
72	GB20190009677	05.04.2013	GB2575183 (A)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	Respiratory assistance apparatus	A respiratory assistance apparatus comprising a gases inlet or inlets, a supplemental gas connection inlet, a blower unit configured to generate a pressurised gases stream, a humidification unit 14, a gases outlet for the heated and humidified gases stream and a	US

						flow path for the gases stream through the respiratory assistance apparatus from the gases inlet(s) through the blower unit and humidification unit 14 to the gases outlet, has a sensor assembly 60 in a flow path of the apparatus before the humidification unit. The sensor assembly comprises a gas composition sensor for sensing gas concentrations within the gases stream, a gas temperature sensor and a flow rate sensor operatively connected to a controller.	
73	JP20160152669	03.08.2016	JP201801989 1 (A)	METORAN KK	RESPIRATION ASSIST PROGRAM AND RESPIRATION ASSIST DEVICE	To provide a respiration assist device in which a user can change settings and select comfortable pressure and flow rate.SOLUTION: There is provided a respiration assist program for controlling a respiration assist device connected to the airway of a user for assisting ventilation by adjusting the pressure in the airway, which has a plurality of mutually different respiration assist modes, and causes a computer to achieve an input reception function for receiving respiration assist mode setting input while a blower for sending air to the airway of the user is	JP

						being operated, and a flow rate control function for controlling the flow rate of the blower reflecting the result of the setting input when the setting input is received by the input reception function. There is provided a respiration assist device, too.	
74	JP20170179873	20.09.2017	JP2019054915 (A)	METORAN KK	RESPIRATION ASSISTANCE DEVICE AND RESPIRATION ASSISTANCE METHOD	To provide a respiration assistance device that can provide comfortable respiration assistance even during sleeping.SOLUTION: A respiration assistance device includes: an interface device worn by a user and delivers gas; a gas-temperature measuring part that measures the gas temperature, which is the temperature of gas; a heating part that heats the gas; and a temperature-changing part that changes the gas temperature by controlling the heating part	JP
75	JP20180059667	27.03.2018	JP2019170455 (A)	NIPPON KODEN KOGYO KK (JP)	RESPIRATOR Y ASSIST DEVICE	To enhance convenience in use.SOLUTION: A respiratory assist device provided with a nasal respiration assisting part which supplies a gas to the nasal cavity of a living body, the nasal respiration assisting part comprising: a first gas supply part for supplying a gas to the lower side of one nostril of a living body; a second gas supply part for	JP

						supplying the gas to the lower side of the other nostril of the living body; a first tube connection part which can connect a tube for supplying the gas to the first gas supply part; and a second tube connection part which can connect a tube for supplying the gas to the second gas supply part	
76	NZ20140745260	04.02.2014	NZ745260 (A)	RESMED PTY LTD (NZ)	Respiratory apparatus	A foam cushion assembly for a CPAP sleep apnoea breathing mask, the foam cushion assembly comprising: a foam cushion (3810) for sealing about at least a nose of a user, and a flexible clip (3812) attached to a surface of the foam cushion for supporting the foam cushion, wherein the foam cushion has a compression stress strain characteristic in a range of 2.32 to 7.26 kilo-pascals when determined in accordance with BS EN ISO 3386: 1997 +A1:210.	NZ
77	US20161573909 6	24.06.2016	US20181856 06 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	An apparatus for delivering a flow of gas, has a housing 3202' with a recess, and an outlet port 3210' for a flow of gas. The recess is defined by at least one wall 3256, 3262 that is substantially continuous, gas impermeable, and unbroken, other than a gasflow passage from the recess to the outlet port of the housing	US

78	US201615766637	16.09.2016	US2018296780 (A1)	METRAN CO LTD [JP]	RESPIRATOR Y ASSISTANCE DEVICE	Respiratory assistance device suitable for Auto CPAP respiratory therapy. The respiratory assistance device includes: a blower device including a blower configured to generate pressurized air; an operation device including an operation interface configured to control the blower; a wireless or wired communication arrangement configured to connect the blower device and the operation device; an attachment part configured to be attached to a head of a patient so as to supply the pressurized air to an airway of the patient; and an air tube through which the pressurized air is introduced into the attachment part from the blower device. The blower device is accommodated in a blower device casing, and the operation device is accommodated in an operation device casing separate from the blower device casing	JP
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79	US201615781599	09.12.2016	US2019111226 (A1)	RESMED LTD [AU]	METHODS AND APPARATUS FOR RESPIRATORY TREATMENT	Apparatus and methods provide control for generation of a flow of air to a patient's airways for different respiratory therapies. The pressure and a flow rate may be simultaneously controlled so as to provide a pressure therapy and a flow therapy. The system may include one or more flow generators, in which the control of the pressure and flow rate may include altering the output of one or more of the flow generators and/or an optional adjustable vent. The pressure and flow rate may each be held at a constant. One or both of the pressure and flow rate may also vary in accordance with a desired therapy. The air may be provided via a patient interface that includes a vent to atmosphere, which may be the adjustable vent. The vent may be actuated by a controller to implement the simultaneous control of pressure and flow rate of the air.	US
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80	US20161607857 1	30.11.2016	US20192989 47 (A1)	TRIVIKRAM [IN]	RESPIRATOR Y CARE APPA RATUS	Described herein is a respiratory care apparatus capable of performing multitude of therapy for secretion management and breath assistance therapy. The respiratory care apparatus comprises an electromechanical air router assembly (EARA) and an interfacing assembly. The EARA includes independent first and second pressure generating sources for assisted inhalation/insufflation and assisted exhalation/exsufflation process. The interfacing assembly includes a patient interface port and a patient interface tube. The negative pressure at the patient interface port for assisted inhalation/insufflation and assisted exhalation/exsufflation processes respectively. The assisted inhalation/insufflation and assisted exhalation/exsufflation processes are carried out independently through separate conduits/passages to reduce contamination and infection. Further, the respiratory care apparatus comprises a garment which oscillates due to alternate positive and negative pressure	IN
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						generation and provides therapy to the patient.	
81	US20171599858 5	16.02.2017	US20193511 61 (A1)	BALANCAIR APS [DK]	A BREATHING DEVICE	A breathing device, comprising a mouthpiece forming a breathing channel, to form a connection between a first end and a second end of the mouthpiece; the first end being configured for a user breathing into the mouthpiece through a breathing opening; an at least partly flexible rebreathing air chamber attached to the second end of the mouthpiece, thereby being in fluid connection with the breathing channel; the rebreathing air chamber being formed by at least partly flexible wall section(s), the at least partly flexible rebreathing chamber having at a first wall section, being permeable to gas by a plurality of pores provided in said wall section and/or the mouth piece comprising one or more though going openings	DK

82	US201716487370	07.03.2017	US2020054846 (A1)	MAQUET CRITICAL CARE AB [SE]	BREATHING APPARATUS, METHOD OF CONTROLLING A BREATHING APPARATUS, COMPUTER PROGRAM AND COMPUTER PROGRAM PRODUCT	A breathing apparatus includes a control unit configured to control operation of the breathing apparatus based on at least a first input value and a second input value. The breathing apparatus also includes a graphical user interface connected to the control unit. The control unit is configured to display a visual output on the graphical user interface including an area defined by a first axis and a second axis. In addition, the breathing apparatus includes an input unit configured to provide selection of a portion of the area. The control unit is configured to set the first input value in response to the position of the selected portion relative the first axis and to set the second input value in response to the position of the selected portion relative the second axis.	SE
83	US201716089084	29.03.2017	US2019125574 (A1)	OVENTUS MEDICAL LTD [AU]	ADJUSTABLE BREATHING ASSISTANCE APPARATUS	An apparatus for providing breathing assistance includes first and second bodies configured to be positioned within an oral cavity of a user. Each of the first and second bodies includes a recess configured to receive a respective set of teeth of a user. An adjustable mounting is configured	AU

						to interconnect the first and second bodies to thereby allow a relative position of the first and second bodies to be adjusted.	
84	US201716336310	21.09.2017	US2020016353 (A1)	METRAN CO LTD [JP]	RESPIRATOR Y ASSISTANCE DEVICE AND RESPIRATORY ASSISTANCE METHOD	A respiratory assistance device including a respiratory interface device configured to be worn by a user and deliver a gas, a gas temperature measurement unit configured to measure a gas temperature that is a temperature of the gas, a warming unit configured to warm the gas, and a temperature change unit configured to change the gas temperature by controlling the warming unit. The respiratory assistance device can administer comfortable respiratory assistance even during sleep	JP
85	US201716342724	20.10.2017	US2020046923 (A1)	NOVARESP TECH INC [CA]	METHOD AND APPARATUS FOR BREATHING ASSISTANCE	Various embodiments are described herein for devices, methods and systems for a breathing assistance device controller for controlling the operation of a breathing assistance device that provides breathing assistance to a user. The controller may include sensors for measuring airflow parameters of	US

						the airflow and generating measured signals; and a processor that is electronically coupled to the sensors to receive the measured signals and to generate a control signal based on the measured signals and at least one characteristic of the user's respiratory system to adjust the operation of the breathing assistance device during use	
86	US20181648553 7	16.02.2018	US20200469 20 (A1)	WEINMANN EMERGENCY MEDICAL TECH GMBH & CO KG [DE]	BREATHING APPARATUS COMPRISING A DIFFERENTIA L PRESSURE SENSOR	A method and apparatus for breathing including a blower mounted in a specific part made of silicone, which reduces blower immissions and emissions. The conducting structure influences the flow of the respiratory gas in order to reduce interference when measuring the volumetric flow	DE
87	US20181648734 3	21.02.2018	US20200231 54 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	A FLUID TRAP FOR A RESPIRATO RY THERAPY SYSTEM	Disclosed is a fluid trap for use with, or comprising part of, a respiratory therapy system, d particular comprising part of, or configured to be connected to, a breathing limb, such as an expiratory limb, of a respiratory therapy system. The fluid trap comprises a container configured to contain fluid received from an inlet; a closure, the closure and container being configured to be removeably mounted together to close the container; and a valve	US

						configured to be removable mounted on at least one of the container and the closure, and configured to be in a closed condition which prevents fluid from flowing through the inlet when the closure is not mounted on the container, the valve being further configured to be in an open position which allows fluid from the inlet into the container when the closure is mounted on the container	
88	US20181594702 1	06.04.2018	US20182216 14 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	In one embodiment, a nasal cannula is shaped to fit within a user's nares, where the nasal cannula includes at least one prong allowing high flow delivery of humidified gases and creates positive airway pressure in the patient's airway. The prongs have angled ends such that, in use, gases flowing through the prongs are directed to the user's nasal passages. The nasal cannula body is partially swivelling and preferably has a ball joint connector. In another embodiment the nasal cannula may have at least one flared end prong that preferably seals within a patient's nares	US

89	US201816057777	07.08.2018	US2020046927 (A1)	BATRICE JOSEPH [US]	BREATHING ASSISTANCE APPARATUS AND RELATED METHODS	Breathing disorders such as snoring and sleep apnea are common disorders disrupting an individual's normal breathing. Improper or obstructed breathing can affect a person's health and wellbeing. This application describes a breathing assistance apparatus and related methods for opening a person's nasal passage to aide in breathing and treat common breathing disorders	US
90	US201816197279	20.11.2018	US2019160239 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	RESPIRATOR Y ASSISTANC E APPARATU S	A head-mounted respiratory assistance apparatus configured to provide a respiratory gases stream to a user. The head-mounted respiratory assistance has a main body securable to the head of a user and a blower unit that is operable to generate a pressurised gases stream from a supply of gases from the surrounding atmosphere. A patient interface is provided on the main body that has a gases inlet which is fluidly connected to the blower unit and which is configured to deliver the pressurised gases to the user's nose and/or mouth	US

91	US20181622213 4	17.12.2018	US20192016 46 (A1)	BIDIBOTS PTY LTD [AU]	RESPIRATOR Y ASSISTANC E DEVICE AN D SYSTEM AND METHOD	A pressurized air delivery device, system and method provide respiratory assistance to individuals, particularly infant humans. The device having nasal conduits or prongs which are in fluid communication with respective supply conduits separately supply each nasal conduit with a breathable gas such as air or oxygen. The size of the nasal conduits or prongs may be chosen according to the size of the individual's nares and the spacing between nasal conduits or prongs may be adjustable.	US
92	US20191635330 5	14.03.2019	US20192989 56 (A1)	NIHON KOHDEN CORP [JP]	RESPIRATION ASSISTANCE DEVICE	A respiration assistance device includes a nasal respiration assisting section for supplying a gas to the nasal cavity of a living body. The nasal respiration assisting section includes: a first gas supplying portion which supplies a gas below one of the nostrils of the living body; a second gas supplying portion which supplies the gas below the other nostril of the living body; a first tube connecting portion to which a tube for supplying the gas to the first gas supplying portion is connectable; and a second tube connecting portion to which a tube for supplying the gas to the	JP

						second gas supplying portion is connectable	
93	US201916384218	15.04.2019	US2020016357 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	A mask assembly for use as part of an apparatus for supplying a flow of respiratory gases to a user is disclosed. The mask assembly includes a mask body having an inlet through which said flow of respiratory gases are provided to the interior of said mask body. A mask seal assembly comprising a seal of flexible material and a clip of rigid material is attached to the body. The seal has a first side and a second side. The first side of the seal is shaped to approximately match the contours of a user's face and in use substantially seal against a user's face. The second side is attached to the clip. The clip provides an interface extending substantially the full perimeter or periphery of the mask seal assembly for releasably attaching the mask seal assembly to the mask body. The clip comprises a bridging portion spanning outwards from the	US

						perimeter or periphery of the mask body to space at least a portion of the second side of the seal outwards from the perimeter or periphery of the mask body.	
94	US20191640772 8	09.05.2019	US20192698 74 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	RESPIRATOR Y ASSISTANC E APPARATU S	A respiratory assistance apparatus has a gases inlet configured to receive a supply of gases, a blower unit configured to generate a pressurised gases stream from the supply of gases; a humidification unit configured to heat and humidify the pressurised gases stream; and a gases outlet for the heated and humidified gases stream. A flow path for the gases stream extends through the respiratory device from the gases inlet through the blower unit and humidification unit to the gases outlet. A sensor assembly is provided in the flow path before the humidification unit. The sensor assembly has an ultrasound gas composition sensor system for sensing one or more gas concentrations within the gases stream	US

95	US201916415607	17.05.2019	US2019336712 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	RESPIRATOR Y ASSISTANC E DEVICE AN D A METHOD OF CONTROLLIN G SAID DEVICE	A method of controlling a flow rate of gases supplied to a patient by a respiratory assistance device includes controlling the supply gases flow rate so as to deliver gases to the patient according to a predetermined gases pressure/flow rate profile for at least a portion of the breathing cycle. A profile may be achieved that provides the patient with a particular benefit or therapy.	US
96	US201916432672	05.06.2019	US2019366028 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	A nasal cannula assembly is disclosed having a face mount part, in use resting against a user's face, which includes at least one nasal prong capable of being fitted into a person's nares. The cannula assembly also includes a manifold part, in fluid communication with the face mount part, having a single horizontal side gases entry. In particular, this cannula assembly is for supplying heated, humidified gases to a patient suffering from COPD. A tie or lanyard is disclosed for use with a breathing assistance apparatus such as a nasal cannula, face or nasal mask or tracheostomy connector. The tie or lanyard transfers the weight of the conduits supplying gases to the breathing assistance apparatus	US

						from the breathing assistance apparatus and distributes it onto the neck of the patient	
97	US20191645297 4	26.06.2019	US20200010 34 (A1)	APEX MEDICAL CORP [TW]	PATIENT INTERFACE HAVING ADAPTIVE SYSTEM, RESPIRATORY MASK AND CUSHION MODULE ADAPTED WITH ADAPTIVE SYSTEM	The present invention discloses a patient interface having an adaptive system, a respiratory mask and a cushion module adapted with the adaptive system. The adaptive system includes a forehead pressure diffusing portion, a cheek buffering portion and a connecting portion. The forehead pressure diffusing portion is disposed in a frame module. The cheek buffering portion is disposed in a cushion module. The connecting portion is positioned between the forehead pressure diffusing portion and the cheek buffering portion. The connecting portion is configured to transmit pressure between the forehead pressure diffusing portion and the cheek buffering portion. Thus, when a user wears a mask or other devices with the adaptive system, a force received by the face of the user could be automatically and appropriately	TW

						distributed, further improving comfort of the wearer	
98	US20191651956 7	23.07.2019	US20193440 36 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	PATIENT INTERFACE AND HEADGEAR FOR A RESPIRATO RY APPARAT US	This invention relates to headgear and a patient interface, or components of a headgear or patient interface, such as a nasal cannula. In one embodiment is a size adjustable headstrap to be provided as a headgear or a part thereof, in another is a portion of a headstrap or component for association therewith in which the portion or component facilitates improved location of the strap upon a user's face, in another embodiment is a system for encapsulating or covering a connector from contact with a user's face or facial skin, in another embodiment is a face mount part or body for a patient interface of a particular configuration, and in yet a further embodiment is a gases flow manifold for delivering of gases to a patient interface of a particular configuration for improved patient comfort.	US

99	US20191652021 6	23.07.2019	US20200163 46 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	Breathing assistance apparatus includes a gases supply unit adapted to, in use, deliver a stream of pressurised gases from an outlet. The gases supply unit is adapted to vary the pressure of the stream of pressurised gases. A supply path includes a flexible self-supporting gases transportation pathway having a first end connected to the outlet so that the gases transportation pathway receives the stream of gases and conveys the gases to a patient. A patient interface is connected to the second end of the gases transportation pathway receives a stream of gases. At least one sensor measures at least one information parameter of the supply path. A control system associated with the gases supply unit receives the information parameter. The control system contains reference data, and compares the received data to reference data, and determines a supply path based on the comparison	US
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100	US20191659468 9	07.10.2019	US20200386 18 (A1)	MERCURY ENTPR INC [US]	Breathing Assis- tance Device with Nebulizer	A breathing assistance device includes a patient breathing tube in fluid communication with a face mask. A source of air connected to a first port formed integrally with a valve in fluid communication with the breathing tube and a nebulizer is connected to a second port formed integrally with the valve. A reservoir holding medicine in liquid form is connected to the nebulizer. A valve actuator has an open configuration where gaseous fluid and aerosolized medicine from the nebulizer flow to the patient through the breathing tube and a closed configuration where only gaseous fluid is delivered. Medication can, therefore, be selectively administered to the patient by manipulating the valve actuator. The valve enables the patient to exhale against pressure slightly above atmospheric pressure. Filter device is secured to the valve body and is configured to filter contaminants from a patients exhaled breath prior to being exhausted into the environment	US
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101	US20191665781 5	18.10.2019	US20201082 19 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	A breathing assistance apparatus is designed for use with delivery of respiratory gases to a patient. The breathing assistance apparatus includes a patient interface, having a body section adapted to cover the nose, or nose and mouth of a patient and a sealing interface. The sealing interface includes at least an outer sealing member. The outer sealing member (201) is adapted to attach to the body section in a sealing manner and has a substantially thin section (203) in at least its nasal bridge region. The thin section is substantially thinner than the rest of the outer sealing member	US
102	US20191666876 4	30.10.2019	US20201012 57 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS WITH LIQUID CONTAINME NT	A breathing assistance apparatus has a main body. A humidification compartment is defined within the main body and is adapted to receive a humidification chamber. A flow generator is positioned within the main body. The flow generator and the humidification compartment are fluidly connected and a liquid containment compartment is interposed between the flow generator and the humidification compartment. The liquid	US

						containment compartment is fluidly connected to both the flow generator and the humidification compartment	
103	TW20030122933	20.08.2003	TW200507900 (A)	CHANG JUN-SHIN [TW]	Medical mask with supply of hot air for treating respiratory tract diseases like SARS	Provided is a medical mask with supply of hot air for treating respiratory tract diseases like SARS which is composed of a mask, an air inputting device and an air outputting device wherein the air inputting device comprises an air conduit, an air filter, an electric motor fan and an adjustable heating device; the air outputting device comprises an air conduit, an air filter, an electric motor fan, an adjustable heating device and a thermal insulation air conduit. By using the air inputting device, clean air or oxygen can be driven by the electric motor fan to pass the precision air filter and then pass the adjustable heating device to allow the temperature of the inhaled air to reach above 37 DEG C, which elevates the temperature of patient nasal cavity and lung to be higher than 37 DEG C to thoroughly eliminate SARS virus.	TW

						The air outputting device expels the exhaust gas from the patient with the fan and conducts the air through the filter and the high temperature heating device, thus making the temperature of the discharged exhaust gas to reach above 120 DEG C to thoroughly eliminate SARS virus.	
104	TW20170134969	12.10.2017	TW20191456 4 (A)	NATIONAL TAITUNG UNIV [TW]	Mobile breathing assistance device	A mobile breathing assistance device to assist a human body breathing, comprising a compression unit, a breathing unit, and a control unit. The compression unit includes an inflatable chest band provided on the human body and a chest gasbag disposed in the inflatable chest band. The breathing unit includes a respiratory cover provided on the body. The control unit includes a control circuit, a gasbag valve, a respiratory cover valve, and a gas storage container. The gasbag valve controls the air of the gas storage container into the front chest airbag and controls the air of the front chest airbag to be discharged outwardly. The respiratory cover valve controls the air of the gas storage container into the respiratory cover, and controls the air of the breathing hood to be discharged outwardly	TW

105	WO2018NZ5005 6	23.04.2018	WO2018199 774 (A1)	FISHER & PAYKEL HEALTHCARE LTD [NZ]	BREATHING ASSISTANCE APPARATUS	An apparatus for delivering a flow of gas having: a controller; a housing defining a gas-flow passage flowing a high concentration oxygen gas; a motor with windings, resilient bearing mounts and an impeller to deliver the gas through the gas-flow passage; a flexible printed circuit electrically connecting the motor to the controller and sensor system; and an elastomeric shield to pneumatically isolate the windings from the gas-flow passage.	US
106	WO2019AU5087 5	20.08.2019	WO2020037 361 (A1)	RESMED PTY LTD [AU]	METHODS AND APPARATUS FOR CONTROLLIN G RESPIRATO RY THERAPY	Methods and apparatus involve generation of an anti-infection therapy. The method/apparatus may include a controller controlling setting of a respiratory flow therapy device for the therapy. The controller may compute a target flow rate profile for a patient using a margin function, such that the target flow rate profile, according to the margin function, exceeds a minimum inspiratory flow rate profile of the patient's inspiration. The controller may control setting the respiratory flow therapy device to generate a flow of air to a patient interface according to the target flow rate profile, where the	AU

						generation may be in synchrony with a sensed parameter that is indicative of a breathing cycle of the patient	
107	WO2019AU5089 2	23.08.2019	WO2020037 375 (A1)	RESMED PTY LTD [AU]	METHODS AND APPARATUS FOR CONTROLLIN G RESPIRATO RY THERAPY WITH SUPPLEMENT ARY OXYGEN	Apparatus and methods provide operations for a respiratory disorder therapy by generating a flow or pressure therapy with supplementary oxygen. The method may be implemented by one or more processors that may set one or more therapy parameters associated with generating a flow of air to a patient interface via an air circuit. The one or more processors may set one or more supplementary oxygen parameters associated with introducing supplementary oxygen into the flow of air at the air circuit. The method may involve computing an oxygen performance metric associated with characteristic(s) of a patient and the air flow with the supplementary oxygen. The computing may include applying function(s) comprising the therapy parameter(s) and supplementary oxygen	AU

						parameter(s). Output, such as a display indicator or automated therapy control change(s), may be generated using the computed oxygen performance metric. Changes to therapy parameter(s) may be made to optimise the metric	
108	WO2019EP7273 1	26.08.2019	WO2020043 672 (A1)	HAMILTON MEDICAL AG [CH]	RESPIRATOR Y DEVICE WITH IMPROVED HUMIDIFICA TION OF THE RESPIRA TION GAS	The invention relates to a respiratory device (10) for the artificial respiration of a patient (12), comprising: - a respiration gas source assembly (15, 62), - a flow-changing device (16), - a humidifier device (38) which is designed to increase the value of the absolute humidity of the inspiratory respiration gas flow (AF), said humidifier device (38) having a liquid store (40) and an evaporation device (76) with a variable output for this purpose, - a respiration gas line assembly (30), - a proximal temperature sensor (48) which detects the temperature of the respiration gas flow (AF) in the proximal longitudinal end region (30a) of the respiration gas line assembly (30), - a humidity sensor assembly (66) which directly or indirectly detects the absolute humidity of the inspiratory respiration gas flow (AF), - a flow sensor (44),	DE

and - a controller (18) which is designed to control the operational output of the evaporation device (76) depending on a specified target humidity of the respiration gas and depending on signals of the proximal temperature sensor (48), the humidity sensor assembly (66), and the flow sensor (44). According to the invention, the humidity sensor assembly (66) is arranged upstream of the humidifier device (38) in the inspiratory direction of the respiration gas flow (AF) and detects the humidity state value upstream of the humidifier device (38), wherein the respiratory device (10) has at least one ambient temperature sensor (17) which detects the temperature in the surroundings (U) of the respiratory device (10), and the controller (18) controls the operational output of the evaporation device (76) depending on the ambient temperature as well.

109	WO2019DE0024 6	20.09.2019	WO2020057 683 (A1)	GRUENDLER GMBH [DE]	SYSTEM FOR ASSISTING B REATHING	The invention relates to a system (1) for assisting pulmonary gas exchange in patients (2) and for coupling to a ventilation system (47). The system provides end-expiratory extraction and end-inspiratory return of the extracted gas. According to the invention, to adjust the temperature of the gas, a flexible tube (5) is enclosed by an outer tube (200), and a heating tube (213) for conducting a liquid or gaseous medium is also arranged inside the outer tube (200) such that the medium can be conducted through the heating tube (213) in a first direction and at least partially outside the heating tube (213) and inside the outer tube (200) in an opposing, second direction.	DE
110	WO2019JP38394	27.09.2019	WO2020067 526 (A1)	TEIJIN PHARMA LTD [JP]	RESPIRATION MONITORIN G DEVICE	Provided is a respiration monitoring device which measures an effective use time of an oxygen supply device and carries out an output. This respiration monitoring device (4) is used together with an oxygen supply device (1) which transmits a highly-concentrated oxygen gas, and is characterized by comprising: a sensing unit (6) which senses a inhalation and exhalation-based change in	JP

						information that is related to at least one of pressure, flow rate, or gas temperature and associated with respiration; a computation unit (725) which carries out a computation of a respiration rate on the basis of the change in the information associated with respiration; a determination unit (726) which determines whether respiration is taking place and whether a user of the oxygen supply device is present on the basis of the respiration rate; a measurement unit (727) which, on the basis of the result of the determination by the determination unit, measures a period in which it is determined that the user of the oxygen supply device is present; and an output unit (728) which outputs a cumulative measurement result for the period	
111	VN2-2005-00208	16/11/2005	2-0000782	Phạm Văn Nho (VN)	Khẩu trang	Giải pháp hữu ích để cập tới khẩu trang dùng trong y tế có tác dụng diệt khuẩn, cụ thể là diệt được vi khuẩn và virut gây bệnh qua đường hô hấp bằng cách sử dụng công nghệ nano.	VN

112	VN2-2009-00076	19/05/2009	2-0000980	Phạm Văn Nho (VN)	Khẩu trang	Giải pháp hữu ích để cập đến khẩu trang dùng trong y tế có tác dụng diệt khuẩn. Khẩu trang này có thể tháo riêng được lớp ruột, nếu cần.	VN
113	VN1-2011-00771	1/6/2009	1-0015565	TRUTEK CORP. (US)	PHƯƠNG PHÁP SẢN XUẤT KHẨU TRANG THẨM KHÍ ĐƯỢC VÀ KHẨU TRANG THẨM KHÍ ĐƯỢC	Sáng chế để cập đến khẩu trang phẫu thuật hoặc khẩu trang thám khí được dùng để ngăn không cho các chất gây ô nhiễm đi vào miệng và mũi của bệnh nhân, những người chăm sóc sức khỏe cộng đồng hoặc làm việc trong các khu vực khác mà có nguy cơ hít các chất gây ô nhiễm có trong không khí, ví dụ, các hạt, chất gây ô nhiễm, vi khuẩn, virut, hoặc các chất dạng hạt nguy hiểm khác đi vào đường miệng và đường mũi. Sáng chế đề xuất khẩu trang được gia tăng hiệu quả lọc bằng cách tạo ra trường tĩnh điện mà hút và giữ các chất gây ô nhiễm tích điện trái dấu và đẩy các chất gây ô nhiễm tích điện cùng dấu.	US

114	VN1-2016-03211	29/08/2016	56346A	Đỗ Mạnh Huy (VN)	HỆ THỐNG LỌC KHÔNG KHÍ CHO KHẨU TRANG	Sáng chế đề cập đến hệ thống lọc không khí cho khẩu trang bao gồm: máy nén khí, ống dẫn khí, bộ phận lọc, khẩu trang, trong đó máy nén khí sử dụng nguồn điện DC từ 2 vôn đến 24 vôn, ống dẫn khí được kết nối kín khí với khẩu trang và máy nén khí, bộ phận lọc được kết nối kín khí với ống dẫn khí hoặc bố trí bên trong ống dẫn khí hoặc được bố trí sao cho không khí được máy nén khí đẩy qua bộ phận lọc trước khi đi qua khẩu trang. Hệ thống lọc này có cấu trúc đơn giản, giá thành thấp, hiệu suất lọc cao, thuận tiện khi sử dụng, ngoài chức năng lọc bụi, vi khuẩn hệ thống còn cho phép loại bỏ các khí độc giao thông khi sử dụng bộ phận lọc chứa nước	VN
115	VN1-2018-02355	31/05/2018	58969A	Công ty Cổ phần tập đoàn Công nghệ cao Doctor Fresh	PHƯƠNG PHÁP MANG NANO BẠC LÊN VẢI THAN HOẠT TÍNH ĐỂ TÍCH HỢP KHẢ NĂNG DIỆT KHUẨN CHO KHẨU TRANG PHÒNG BỤI	Sáng chế đề cập đến phương pháp mang nano bạc lên vải than hoạt tính để tích hợp khả năng diệt khuẩn cho khẩu trang phòng bụi, trong đó nano bạc được điều chế bằng phương pháp hóa học hoặc điện hóa cao áp, phương pháp này bao gồm các bước: (a) chuẩn bị vải than hoạt tính có cấu trúc xốp và tính chất cơ lý đáp ứng yêu cầu; (b) chuẩn bị dung dịch nano bạc; (c) tẩm nano bạc lên vải than hoạt tính và xử lý để tăng độ bám của nano bạc lên vải than hoạt tính; (d)	VN

					thực hiện phản ứng tạo nano bạc insitu bô sung bằng dung dịch AgNO ₃ và axit citric trong buồng sấy ở nhiệt độ 200°C; và (e) tắt nguồn điện buồng sấy, để nguội thu được vải than hoạt tính mang nano bạc.	
116	VN 1-2018-05704	28.06.2017	CLEVER.CO.LTD (JP)	Khẩu trang, khẩu trang được phân lớp bởi nhiều các bộ lọc, khẩu trang loại tái hô hấp và hộp đựng khẩu trang	Sáng chế đề xuất khẩu trang để ngăn vi hạt, vi rút, và tương tự, cũng như có hiệu quả chống các côn trùng bay và hộp đựng chuyên dụng cho khẩu trang này. Sáng chế đề xuất khẩu trang (A) được tạo ra bởi sự phân lớp có nhiều các bộ lọc, trong đó ít nhất là bao gồm bộ lọc chống tĩnh điện được tạo ra từ vải làm từ sợi polyeste, sợi cacbon được dệt vào trong vải, bộ lọc chống côn trùng được làm từ vải bông ngâm tẩm phức chất gốc amit, và bộ lọc khử mùi được làm từ vải làm từ các sợi tơ nhân tạo và polymé lưỡng tính tan trong nước được trộn vào trong bộ lọc khử mùi, được phân lớp. Sáng chế cũng đề xuất hộp đựng khẩu trang (7), trong đó hộp đựng khẩu trang được bố trí các phần dưới (71, 72) được chia làm hai và phần trên (73) được nhô ra từ phần giữa của các phần dưới. Cạnh cuối mở (74) được bố trí sao cho có thể mở tại phần đi từ một trong các phần dưới (71, 72) tới phần trên (73). Cạnh cuối dạng vát (76) được tạo ra để che cạnh cuối mở (74) từ phần trên (73).	JP

117	CN20021022960	11.06.2002	CN1464129 (A)	ZHAO JINYI [CN]	Functional hygiene garments face fabric	The functional health costume facing features its three-layer structure including upper and lower ozone slow-releasing layers and middle fiber with nano RE material and natural medicine mixed. Owingto the radiation, activation, catalysis and magnetotherapy effects of the RE particle, medicine molecule and slow-released ozone on body, the functional health costume facing has functions of killingbacteria, resisting virus, dredging meridian, regulating nerve and raising immunity. The costume of the facing can produce lasting disease preventing and treating effect and is environment friendly and has no toxic side effec	VN
118	CN20031009283	08.04.2003	CN1462642 (A)	WANG GUOXIN [CN]	Mouth mask for preventing SAR S	A mouth piece for preventing SARS is disclosed	CN

119	CN20032056657 U	01.05.2003	CN2613278 (Y)	HANDAN XUECHI GROUP CO LTD [CN]	Anion antiseptic mask	The utility model discloses an anion antibiotic gauze mask, characterized in that the utility model is formed by stitching a surface course and an interlayer, wherein the interlayer comprises anion powder. The utility model is capable of effectively preventing the intrusion of the virus such as SARS and the like, having the effects of antibiosis and anti-inflammation, because the anion has comparatively high activity and strong oxidation-reduction action which can destroy the cell membrane of the bacteria or the activity of cell protoplasm organized enzyme, thereby achieving the purposes of antibiosis and sterilization, being capable of strengthening the anti-virus ability of the immune system, decreasing the allergy to the cold current and the influenza, and improving the natural detoxifying ability of the human body. The utility model can be used as an effective hygienic appliance for current virus prevention such as SARS and the like, playing the role of antibiosis and health care	CN
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120	CN20032057648 U	19.05.2003	CN2617405 (Y)	CHEN SHUKUN [CN]	Disposable breathing mask against infection	The utility model relates to a disposable anti-infection respiratory mask which can prevent cross-infection. The utility model is characterized in that a pair of draft tubes are horizontally and symmetrically arranged at the lower-part of the nasal ala respiratory mask; two one-way valves are arranged in the pair of diversion tubes, one of which is clockwise assembling and the other is anti-clockwise assembling. The utility model has the advantages of simple structure, low cost, good effect, effective prevention of the medical staff of the input infection and suitable for the medical staff working for treatment and prevention of similar SARS virus	CN
121	CN20031023905	20.05.2003	CN1548186 (A)	ZHAO QUANYING [CN]	Fresh air breathing mouth mask	The respirator supplying fresh air consists of raised mask of polyethylene plastic, canal, abacterial air filter and miniature air compressor. The operation principle includes wearing the mask to cover mouth and nose, starting the air compressor to suck in air and air is filtered and fed via the canal into the mask in positive pressure to ensure no germ to enter the mask. The respirator is used by health person to provide	CN

						fresh air while resisting invasion of SARS virus and other virus. It may be also used by those working in dusty and harmful air condition and in field condition. The principle of the present invention may be adopted also in making abacterial isolating chamber, etc.	
122	CN20032056744 U	22.05.2003	CN2629476 (Y)	MAO SHUWEI [CN]	Protective garment for preventing sars	The utility model discloses a protective clothing for preventing of SARS, comprising a connecting headgear, a connecting coat, a pair of connecting trousers and a pair of connecting shoe covers, wherein the connecting headgear, the connecting coat, the connecting trousers and the connecting shoe covers are all integrated and a high sealed zipper is positioned at the breast part of the connecting coat. The utility model can realize an overall body gapless isolation for medical staff and reduce infection chance; moreover, the anti-static material the protective clothing adopts can prevent virus and bacteria sticking to the clothing surface or provide convenience for removing virus and bacteria, which significantly improves the protection effect for	CN

						medical staff (in particular for staff in infective medical zone)	
123	CN20032061440 U	24.05.2003	CN2633337 (Y)	LIU JUNYI [CN]	Simple respiration shut sterilizing mask for mouth and nose	A simple respiration shut sterilizing mask for mouth and nose consists of a respiration shut mask for mouth and nose, a sterilizing package and an air delivery pipe. To prevent viruses from invading human body through air, people wear prior gauze masks for mouth and nose. But as complete seal of prior gauze masks for mouth and nose can bring about shortness of breath, the prior gauze makes for mouth and nose are not sealed up completely and long-time wearing can produce self contamination to suffer people. According to the prior technical problems, the respiration shut sterilizing mask for mouth and nose is provided to solve the problems perfectly, thereby overcoming the defects of air leakage, air seal, insalubrity and insecurity of the prior gauze masks for mouth and nose and	CN

						providing a good protector against SARS	
124	CN20032062124 U	23.05.2003	CN2626525 (Y)	SANITATION EQUIPMENT INST MILI [CN]	Biological protective mouth mask	The utility model discloses a biological protective mask which mainly comprises a filter layer (1), mask girdles (2) and a nasal clip (3), wherein the filter layer (1) consists of a protective layer (5), a charge-absorption layer (6) and a compact filter layer (7). The mask can filter off particles in the air, separate the droplets, blood, body fluids and secretions, and efficiently isolate bacteria and viruses, and is suitable for the medical staff and general population. The utility model is an ideal protective article against the infection of SARS virus	CN
125	CN20032027750 U	27.05.2003	CN2618629 (Y)	REN LEI [CN]	Mask for blocking SARS patient transmission pathogen by droplet	The utility model discloses a mask which can block SARS patient to spread pathogen by droplet. The mask consists of a semi-spherical mask body, an inspiration pipe box, a breathing pipe box and a combustion heating removing toxicity chamber. The bottom edge of the mask body	CN

shows nasal shape or horn shape curving outwards. The inspiration pipe box and the breathing pipe box are provided with a one way valve respectively, along with the breathing of people, the inspiration pipe box inlets air automatically, without letting out air, the breathing pipe box only outlets air automatically without inletting air. The outer end of the inspiration pipe box can be provided with a filtering mask but also can be connected with an added oxygen pipe, which is in favor of breathing clean air or adding air. The breathing pipe box outer end connects with the combustion heating removing toxicity chamber by a seal flexible hose, which ensures that the exhaled air with pathogen is disinfected by the combustion heating removing toxicity chamber, thus the droplet spreading pathogen is blocked and the surrounding medical staff is protected from being infected. Furthermore, the utility model has the characters that the device is simple, convenient, and reliable in effect, without affecting speaking or conversation

126	CN20031048843	11.06.2003	CN1565677 (A)	WANG RUI [CN]	Nanometer SARS-proof gauze mask and guard garment	A nanometer anti SARS mask and insulating clothing are made by coverage type nanometer cloth soaked with nanometer particle. The invention adopts macromole polysaccharide, which can combine with virus protein rapidly and effectively as material for preparing nanometer polysaccharide colloid. The average particle parameter is smaller than 100 nanometers in the nanometer polysaccharide colloid. Dips a common non-nanometer cloth in the nanometer polysaccharide colloid and dries it into the coat type nanometer cloth. Four layers coat type nanometer cloth laminate with the two layers common non-nanometer cloth into integrated composite cloth for making mask and insulating clothing. It has a super powerful absorption and insulation function to virus(SARS coronavirus is included) and favorable air permeability function, thus can effectively prevent the virus be passively absorbed into the body	CN
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127	CN20032045999 U	19.06.2003	CN2598565 (Y)	LI JUNXIU [CN]	Special mask for SARS patient	The utility model relates to a special mask for SARS patient, which prevents the exhaled air with the virus of SARS patient from polluting the environment according to the respiratory condition of SARS patient. The utility model comprises a head cover arranged on the upper part of the upper body of SARS patient, wherein the head cover is communicated with an air inhalation device through an air channel, the air inhalation device is communicated with an air recycling container communicated with the atmosphere, wherein the air recycling container is also provided with an ultraviolet apparatus and communicated with an ozone sterilization apparatus. The utility model has simple structure, economization and practicability, and the capability to effectively prevent the secretion and sputum with virus exhaled by SARS patient from polluting the environment indoors, thereby improving the living environment of SARS patient and preventing the harmful air from infecting the medical staff	CN
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128	CN20032066130 U	27.06.2003	CN2631542 (Y)	ANTAI SCIENCE & TECHNOLOGY CO [CN]	Anionic protective mask	The utility model belongs to the field of daily necessities, which especially relates to an anion protecting mask which comprises a mask body and a frenum. The utility model is characterized in that the mask body comprises four layers of materials, the outer layer is knitting interlock, and the second layer is ultrafine denier polypropylene filter layer, and the third layer is anion knitting interlock filter layer, and the inner layer is cotton degreasing gauze. The mask body provides an inner metal nasal clip. Comparing to the existing technology, the utility model has the advantages of simple structure, good breathable performance, high air-filtering degree, effective air-purifying, bacteriostasis and disinfection and virus-propagating prevention	CN
129	CN20032051	07.07.2003	CN2636640 (Y)	LI BAOYING [CN]	Aerated isolation garment for preventing SAR S infection	The utility model relates to a gas-filled type insulating clothing to prevent the atypical pneumonia to infect, a helmet made of an airproof fabric or a plastic film is connected with the upper clothing as a whole, the cuff and the waist part is provided with a rubber belt, the cuff and the waist part is tightened and forms a air proof effect when wore by human. The	CN

gas-filled insulating clothing is provided with a compressed air input port, and front of the helmet is installed with a transparent window, and the top of the helmet is provided with a discharge outlet. And air compressor is installed outside a sickroom, the compressed air is transmitted to each medical area and sickroom through a air delivery pipe, a connecting hose is provided between the gas transmission pipeline of the gas-filled insulating clothing and the gas transmission pipeline of the room, the air input port of the insulating clothing and the compressed air transmission pipe pin is connected by the hose. Because the human is inside the insulating clothing and breathes flesh air, and in a slow circulation state of input and discharging, the heat emission and breath retardation problem caused by the existing insulating clothing is eliminated. The utility model can be widely used in the sickroom and clinic room of a hospital, and efficiently controls the zero distance contact far from infection

130	CN20032007012 U	04.08.2003	CN2695034 (Y)	LIU RUIHUA [CN]	Full oxygen antivirus mask	The utility model discloses a full oxygen antivirus mask designed by the protection that calorifics physics directly aims at various viruses and contagions. A mask body, an intake guide, a disinfecting, filtering and heat radiating box are connected to form the full oxygen antivirus mask. The design adopts the physical structure of the internal guide of the division of a mouth and a nose, the branch of breathing and the straight breathing of a short path. The full oxygen antivirus mask makes use of the functions of the branch and a control valve to enable the 99% exhalant carbon dioxide to directly exhaust out the cover by a short tube connected with a nasal cavity. Further, the full oxygen antivirus mask enables the breathing air to be fresh air with sufficient oxygen purified and treated by the filtering box and sucked into from a by-pass channel. The breathing is controlled by the physical structure of strictly disinfecting. The full oxygen antivirus mask uses the 100% dependability to effectively protect. Owing to the clarifying filtering of a new and	CN
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						non baffled type, the full oxygen antivirus mask ideally solves the bottle-neck problem of the oxygen lack when the breathing mask exchanges air	
131	CN20031030572	15.08.2003	CN1199595C	UNIV TIANJIN [CN]	Enclosed integrated protective garment	The invention discloses a sealed one-piece exposure suit, connecting cap, coat, trousers and podotheca into a sealed whole, a mouth set on the front side of coat and trousers, a zipper set in the place of the mouth, the mask front set outside the zipper, the veil made of transparent material, one-way valve set on the cap, concave or convex groove set at the bottom of the podotheca, and air-purifying equipment set on the waist, which can make 1-100mmH2O pressure inside the exposure suit, assure the gas in the exposure suit exhausts from inside to outside on normal condition and the phenomenon that matter flows from outside to inside does not happen, except that purified gas normally is pumped in the exposure suit, and avoid the pathogenic microbe infects doctors and nurses, like the infection caused by SARS virus.	CN

						It can be used to prevent serious infectious disease	
132	CN20032052129 U	08.09.2003	CN2640521 (Y)	WEISHENG SCI TRADE DEV CO LTD [CN]	Folding nano protective mask	The utility model relates to a folded nanometer protective mask, which belongs to the art field of health defense products; a mask body comprises an outer layer, a nanometer filter layer and an inner layer; the nanometer filter layer is positioned between the outer layer and the inner layer; the mask body is fresh water mussel-shaped; wherein, the outer layer is made of pure cotton cloth or needle-felt non-woven fabric after combing processing; the nanometer filter layer is made of superfine fiber melt-spurt material; the fiber diameter is 0.3 microns, that is 300 nanometers. The inner layer is contacted with the body skin while being used. The utility model has the advantages that the filtration efficiency is greater than 95%; the gas-flow resistance is less than 343.2 pascals; the virus and the germ can be effectively insulated;	CN

						the sealability is good; the utility model is more particularly applicable to the people fighting against SARS	
133	CN20042011003 4U	19.11.2004	CN2748106 (Y)	XU TIANCHENG [CN]	Virus resistant mask	The utility model discloses a virus resistant mask which is mainly composed of a mask body, a belt buckle, etc. The utility model is characterized in that the mask body is equipped with an electrically connected metal mesh. The utility model has reasonable structure and artful design, and can efficiently prevent the suction of the virus from the mouth cavity which can increase the diseased probability of the human body. The utility model is in favor of preventing SARS and influenza virus with popularization value	CN
134	CN20072054932 U	01.08.2007	CN20107964 0 (Y)	RONGJIE WU [CN]	Disposable nose mask	The utility model discloses a novel disposable nasal mask which comprises two frames connected with transparent connection bands with openings at two ends, filters in intersecting parallels are arranged at the top of the frames, environment-friendly nonwoven cloth and active carbon	CN

						sponge are fastened by the inner rings of the frames. The utility model has the functions of anti-virus, dust preventing, sterilization, air purification, refreshing rhinitis, and also has the characteristics of light weight, implicit form and beauty, therefore, the utility model is suitable to be widely used in daily life and work	
135	CN20092045010 U	25.05.2009	CN20145146 8 (U)	WUXI NEW DISTR MEICUN TOWN TONGCHUN SOLAR PV PLANTATIONS (CN)	Influenza prevention device employing lithium battery ion on gauze mask	The utility model relates to an influenza prevention device employing a lithium ion battery on gauze mask, which belongs to the technical field of sanitation and antiepidemic. When a human body inspires, the air enters into a three-dimensional gauze mask with a ultraviolet lamp from the dustproof grid pores of an air inlet sleeve cover which is provided with dustproof grids, the lithium ion battery positioned in the inner portion of the three-dimensional gauze mask with the ultraviolet lamp supplies power to an annular ultraviolet lamp tube through a conductive wire, the ultraviolet rays can kill bacteria, viruses and various microbios in the air, meanwhile, the ultraviolet rays is retained by a hollow light-blocking round plate around the	CN

						dustproof grids and can not directly irradiate towards the outside of the three-dimensional gauze mask, and the ultraviolet rays are retained twice by a light-blocking plate with three vent holes and a light-blocking plate whose vent holes are positioned in misalignment and can not irradiate towards the inside of the three-dimensional gauze mask, thereby effectively protecting the nasal cavity and oral cavity on the head portion of the human body from being hurt by the irradiation of the ultraviolet rays, guaranteeing the air sucked by the human body is sterilized by the ultraviolet rays and fresh and effectively preventing the infection of influenza.	
136	CN20092065012 U	27.06.2009	CN20151808 3 (U)	DAWANG HE (CN)	Anti-microbial dustproof nasal mask glasses	A pair of anti-microbial dustproof nasal mask glasses comprise a pair of glasses and a nasal mask (7) and is characterized in that the nasal mask (7) is pasted to the inner side at the lower part of a glasses frame (4), an air filtering object (8) is arranged in the nasal mask (7) and can suck disinfection and sterilization solution to perform the disinfection, the sterilization and	CN

							the dust prevention. The utility model has the advantages of simple structure, easy manufacture, low cost, eyesight protection, and microbe and dust prevention, and protects respiratory organs from being infringed by virus, thereby benefiting the health	
137	CN20091021400 0	21.12.2009	CN10210041 7 (A)	JINGJUN HU	N95 negative ion mask type	The invention discloses an N95 type negative ion mask which is a layered matter comprising four layers of materials, wherein the first layer is a receiving layer, the second layer is an adsorbing layer, the third layer is a filtering layer and the fourth layer is a nursing layer; the first layer is the outward layer when the mask is used; the layers are sequentially stacked together; and an ultrasonic mask special device is adopted for processing, then the N95 type negative ion mask in various required shapes can be produced, the N95 type negative ion mask is a special mask for the public for prevention and control of a variety of epidemic situations and is characterized in that the N95 type negative ion mask not only conforms to the functions of masks made of American N95 standard filtering material and	CN	

						European standard masks, but also has the function of killing various bacteria and viruses, and can prevent the viruses from entering into the oral cavity and the nasal cavity, provide better air negative ions for the respiratory tract and prevent the occurrence of various diseases of the respiratory tract, and the N95 type negative ion mask additionally has the characteristics of excellent air permeability, comfort, appropriate product cost and the like	
138	CN20108044028	03.08.2010	CN10254843 9 A	UNI CHARM CORP (JP)	Face mask	Disclosed is a face mask which does not allow a virus or the like to remain in the outer surface of the mask main body and can exhibit high antibacterial and antiviral actions and which has improved air permeability, collecting properties, and productivity. The face mask (1) comprises a mask main body (10) and ear loop parts (20) extending from both sides of the mask main body (10), the mask main body (10) including an outer layer sheet and an interlayer sheet. The outer layer sheet is constituted of hydrophobic fibers. The interlayer sheet has been laminated to the outer layer sheet so as to be	JP

						located nearer on the wearer side than the outer layer sheet, and comprises a first fibrous layer constituted of polyolefin fibers containing an inorganic antibacterial and a second fibrous layer constituted of polyolefin fibers that have a larger fiber diameter than the first fibrous layer. The first fibrous layer has a fiber diameter in the range of 0.5-2.8 [mu]m, and the ratio of the particle diameter of the inorganic antibacterial to the fiber diameter in the first fibrous layer is in the range of 0.1-6.0	
139	CN20112096761 U	02.04.2011	CN20196773 3 (U)	INST BASIC MED SCIENCES PLA (CN)	Protecting mask containing nanometer silver and chitosan	The utility model discloses a protecting mask containing nanometer silver and chitosan, belonging to the technical field of drug sundries preparation. The protecting mask containing the nanometer silver and the chitosan comprises five layers of gauzes, wherein two layers are functional absorbent cotton gauzes containing the nanometer silver and the chitosan. The protecting mask containing the nanometer silver and the chitosan has the effects of resisting bacteria, removing peculiar smell and absorbing dust, can effectively prevent harmful bacteria	CN

						or viruses from invading a human body through an oral cavity and a nasal cavity and prevent each kind of infectious disease, and has excellent air permeability simultaneously	
140	CN20111084397	02.04.2011	CN102144817 (A)	INST BASIC MED SCIENCES PLA (CN)	Protective facial mask containing nano silver and chitosan and production method of protective facial mask	The invention discloses a protective facial mask containing nano silver and chitosan and a production method of the protective facial mask. The protective facial mask provided by the invention is composed of five gauze layers, wherein two of the five gauze layers are functional absorbent cotton gauzes containing the nano silver and the chitosan. The protective facial mask has the functions of antibiosis, eliminating unusual smell and absorbing dust, and can effectively prevent pathogenic bacteria or virus from invading into a human body through the oral cavity and the nasal cavity so as to prevent communicable diseases; and the protective facial mask is excellent in air permeability. The production method of the protective facial mask is simple, wide in material	CN

						source and suitable for industrialized production.	
141	CN20111068326	22.03.2011	CN102138707 (A)	TINGHU WANG (CN)	Method for producing traditional Chinese medicament sterilizing mask	The invention relates to a method for producing a traditional Chinese medicament sterilizing mask. The method is beneficial attempt according to prevention work situation development requirements on respiratory infectious diseases such as SARS, flu, A(H1N1) influenza and the like, by using the traditional Chinese medical science principle and the well-designed traditional Chinese medicament formula and under the modern production process condition. The production method has the characteristics of novel idea, unique formula, simple construction process, normal production process, simpleness and convenience in operation, safety in use, health and environmental friendliness, cost saving, convenience in popularization and the like. Compared with the prior art, the traditional Chinese medicament	CN

sterilizing mask produced by the method has the advantages that: medicaments are not placed in the interlayer of the mask, so that the waste phenomenon caused by using disposable medicament masks is avoided; a sterilizing medicament bag arranged between an oral cavity and a nasal cavity is scientific and reasonable and is absorbed by a human body through the oral cavity and the nasal cavity; traditional Chinese medicament sterilizing medicinal effect can be released; and the quality of the air filtered by the mask and the traditional Chinese medicament sterilizing effect can be guaranteed. The method is easy to learn and understand and is operated by people conveniently in the specific links of replacing the medicament bags and the like. The method has the characteristics of convenience of popularization to the society and the like

142	CN20132021797 6U	26.04.2013	CN20330238 7 (U)	RAN WEI (CN)	Mouth mask with PM2.5-preventing anti-virus sterilization nanometer filter piece	The utility model relates to a mouth mask with a PM2.5-preventing anti-virus sterilization nanometer filter piece. The mouth mask comprises a mask body and belt bodies, wherein the mask body is used for covering and protecting the face, the mouth and the nose, and the belt bodies are connected with two short edges of the mask body and used for being hung on the ears. The mask body comprises two cloth layers and the filter piece located between the two cloth layer, wherein the first cloth layer makes direct contact with the external environment, the second cloth layer is attached to the face, the mouth and the nose and makes direct contact with the human body, and the filter piece is of a three-layer structure. The mouth mask has the advantages that filter efficiency, air permeability, the anti-bacterial property and the like of the filter piece of the mouth mask are improved obviously, the advanced hyperfiltration technology is adopted, the filter efficiency of PM2.5-level air particles is greater than 99%, and the mouth mask is simple in structure, comfortable to wear,	CN
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						and more beneficial to human health	
143	CN20141041177 3	21.08.2014	CN10587692 9 (A)	WANG GAINA (CN)	Anti-haze mask	An anti-haze mask employs an inner non-woven fabric, an outer non-woven fabric, and a middle layer filter cloth (nanometer filter layer); two sides are provided with adjustable hang belts; the hang belt is provided with an adjusting ring; the mask is provided with a nose clip; the haze is mainly filtered by the middle nanometer filter layer; the non-woven fabric carries static charges so as to absorb very small size dusts; the diameter of filtered particles can be as small as 0.3 micrometer. The diameter of coronavirus pneumonia virus is about 0.1-0.12 micrometer; the mask can effectively filter particles like dusts, water base mist, paint mist, oil-free smoke (welding smoke), and microbes; the mask also can filter and remove oil-based particles	CN

144	CN20141084798 4	30.12.2014	CN10579554 9 (A)	TIANJIN 4D KANG ENV PROT TECH DEV CO LTD (CN)	Functional anti-haze mask for civil use	The invention discloses a functional anti-haze mask for civil use. The anti-haze mask comprises a mask main body which can cover a mouth, a nose and a lower jaw, and a pair of ear-hung parts which are connected to two ends of the mask main body and are hung and hooked on ears, wherein in a direction from the bridge of the nose to the lower jaw, the mask main body is divided into a nasal cavity coverage region which is provided with a nose bridge soft bar, a respiratory cavity region and a lower jaw coverage region; a storage part, which is used for storing a filter sheet, is arranged in a respiratory cavity, and composite adsorbent material layers, which have an adsorbent effect on formaldehyde, benzene, TVOC (total volatile organic compound) and particulate matters in haze and have an inhibitory effect on bacteria and viruses in the haze, are included in the filter sheet; when the mask is symmetrically folded, the nose bridge soft bar in the nasal cavity coverage region forms an angle of 80-95 degrees with the center line of the mask	CN
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						main body; the center line of the respiratory cavity region is an arc that a radian is 0.25-0.4 [pi]; and the center line of the lower jaw coverage region forms an angle of 90 degrees with the edge of the mask main body in the region. The mask main body, with the unique design, has an anti-haze function, and meanwhile, the mask main body can get into full contact with the face of a wearer, so that the mask is good in sealing effect and high in comfort, and moreover, the mask is good in filtering effect and air permeability	
145	CN20142037567 2U	07.07.2014	CN20393469 3 (U)	WUHAN KEYU WEIER COMPOSITE MATERIAL CO LTD	High- permeability anti-PM2.5 anti- haze anti-virus anti-germ sub- nanofiltration membrane mout h mask	The utility model discloses a high- permeability anti-PM2.5 anti- haze anti-virus anti-germ sub- nanofiltration membrane mouth mask. The appearance of the mouth mask is in a rectangular shape. A main body of the mouth mask is formed by an outer surface layer, an intermediate high-permeability polymer ultra- thin sub-nanofiltration composite membrane filter element and an inner surface layer; and the high- permeability polymer ultra-thin sub-nanofiltration composite membrane filter element is arranged between the outer	CN

surface layer and the inner surface layer. The high-permeability polymer ultra-thin sub-nanofiltration composite membrane filter element is formed by mutual and tight superposition of a high-permeability sub-nanometer porous polymer ultra-thin membrane layer and a porous carrier layer; the high-permeability sub-nanometer porous polymer ultra-thin membrane layer is adjacent to the outer surface of a mouth mask body; and the porous carrier layer is adjacent to the back of the inner side of the mouth mask body. According to the technical scheme, the anti-PM2.5 anti-haze anti-virus anti-germ effects, the ventilation effect and the adaptation of the mouth mask can be effectively enhanced, wherein the mouth mask can realize prevention of viruses like influenza virus, the SARS virus, and the bird flu virus and the like. Moreover, the mouth mask with the simple and convenient structure can be worn comfortably.

146	CN201410616980	06.11.2014	CN104432703 (A)	WU ZUCHI (CN)	Multifunctional healthy face protecting mask	The invention discloses a multifunctional healthy face protecting mask and belongs to daily living necessities. According to the first right claim, the multifunctional healthy face protecting mask is characterized in that first, an outer layer polyester satin layer of the mask has the function of preventing ultraviolet from irradiating facial skin; second, inner layer natural silk of the mask has the functions of being tightly attached to the facial skin and preventing water on the facial skin from losing; third, I-type collagen on the inner layer of the mask and III-type collagen on the inner layer of the mask have the functions of fixing the shape of the mask and supplementing facial collagen; fourth, a silica gel nasal cavity anastomot is fully matched with nostrils, an activated carbon filter screen on a silica gel gas inlet channel has the function of filtering out impurities, smoke dust and particles in inhaled gas of the nasal cavity, a nanometer silver filter screen has the functions of filtering out viruses, bacteria, allergens and odor and preventing respiratory diseases,	CN
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						an air addition agent layer has the functions of releasing air addition agents into inhaled gas and preventing vehicle and ship motion sickness; sixth, a silica gel gas outlet channel has the smooth gas outflow function	
147	CN20152062613 4U	19.08.2015	CN20486131 4 (U)	GUO SHIQIANG (CN)	Reassembling type illumination medical mask	The utility model belongs to medical protection articles for use field, concretely relates to reassembling type illumination medical mask. Reassembling type illumination medical mask, including the gauze mask body, gauze mask body both sides are equipped with movable stretching strap, and movable illuminator is established to gauze mask surface portion on the upper side, and gauze mask internal surface lower part is equipped with the absorption filter bowl of dismantling. Reassembling type illumination medical mask has not only satisfied virus infection between isolated patient and the doctor, has made things convenient for department of stomatology medical matters staff to carry out the oral cavity inspection, has reduced supplementary lighting apparatus's use, utilizes the	CN

						illuminator of dismounting combination messenger gauze mask simultaneously, the stretching strap, and the adsorptivity is strained the box and is obtained repetitious usage, reaches the effect of utilization of resources maximize	
148	CN20162060431 3U	20.06.2016	CN2056825 22 (U)	HANGZHOU WEIXI TECH CO LTD (CN)	Novel mask	The utility model relates to a life nursing articles for use specifically relate to a novel mask, ear area including gauze mask body and fixed gauze mask, the gauze mask body have a cavity in mouth nasal part position, the peripheral silica gel skeleton that is of cavity, silica gel skeleton skin be equipped with the pattern layer. The gauze mask sets up a cavity in mouth nasal part position, and the cavity periphery sets up the filtration, makes to wear that the population nose is not inaccessible to be felt, breathes more freely, has set up anion layer in the filtration, and the anion of its release makes the oxygen in the cavity become the negative oxygen ion, helps the human negative oxygen ion that sucks, and the negative oxygen ion also helps adsorbing dust simultaneously, kills bacterium	CN

						and virus, guarantees healthily humanly	
149	CN20162060381 5U	30.06.2016	CN20567237 1 (U)	HANGZHOU WEIXI TECH CO LTD (CN)	Invisible mask	The utility model relates to a life nursing articles for use specifically relate to an invisible mask, including the nasal obstruction formula filter that can fill in the nostril and the support chassis who connects two filters, nasal obstruction formula filter have a flat filter element, a spherical filter core and a transparent dustcoat, flat filter element on have a lot of filtration pores, is equipped with a projection in the middle of the filter element, spherical filter core nestification is on the projection, transparent dustcoat open end is equipped with dust -proof membrane. Adopt terminal inflated projection in the middle of this gauze mask filter element, spherical filter core nestification is on the projection, and convenient more renew cartridge has increased the life cycle that influences the gauze mask, with	CN

						negative ion coatings on the transparent dustcoat, increases the human negative oxygen ion that sucks, and the negative oxygen ion also helps adsorbing dust simultaneously, kills bacterium and virus, guarantees humanly healthy	
150	IN2013MUM325 4	17/10/2013	IN3254MU2 013	AHMEDABAD TEXTILE INDUSTRY'S RES ASS [IN]	Nanofiber based antimicrobial face mask for protection against viruses and a process of preparing face mask thereof	The present invention relates to nanofiber based antimicrobial face mask for protection against viruses and a process of preparing face mask thereof. Most particularly, the present invention relates to preparing an antimicrobial face mask effective for protection against viruses with virus filtration Efficiency > 99%. The face mask is prepared by using composite filter media having an antimicrobial nanoparticle filled nanofiber layer deposited on the surface of nonwoven substrate	IN
151	JP19890210536	15.08.1989	JPH0385180 A	JIEROOMU EICHI REMERUSON (JP)	Face mask	PURPOSE: To prevent diffusion of pathogens brought by vaporized particle of the body fluid by composing the mask base of layers of several perforated layers and arranging a sterilizing part around the central part between a front and a reverse so as not to touch the skin of a user. CONSTITUTION: Face mask 10	JP

					has a mask base 11 composed of appropriate porous material sheet made of either porous papers, open cell foamed plastic, nonwoven porous material, woven cloth, gauze, plastic-impregnated gauze, layered plastic impregnated gauze or plastic material made of such layers. The mask base 11 has an extent appropriate to apply the nose and mouth of a mask user, of which central part is impregnated or coated with a chemical compound and/or biological medicine, further provided with a covered sheet containing the medicine to sterilize bacteria and/or virus passing through the mask when in use. The inner wall of the part 12B or a circular non-perforated plastic film would prevent laying chemical compounds from touching the face of the user in case the whole mask base 11 includes the medicine.	
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152	JP20040061316	05.02.2004	JP200521880 5 (A)	HIRABAYASHI MASAAKI (JP)	TONSILLER FOCAL INFECTION PROTECTIVE MASK	To provide a moisturized mask without strings with improved safety and stability not to be displaced or removed when worn at the time of sleeping especially because it is of the type to be directly stuck to the mouth and nose region on the face of a user without gap for preventing invasion of dust, ticks, pollen, bacteria and viruses, etc., which are said to be factors causing the tonsiller focal infection (allergic disease, immune disease, etc.) into nasal cavities and bronchi, etc. ;SOLUTION: The tonsiller focal infection preventive mask without strings is the mask to be adhered to the mouth and nose region for respiration. The mask consists of (1) an adhesion part to cover the mouth and nose region, and (2) a paper or cloth cover part permeating air with moisture (about 10% moisturized)	JP
153	JP20090014809	26.01.2009	JP201017876 5 (A)	KATO KIYOSHI; UNIV KINKI (JP)	MASK	To provide a mask capable of suppressing infection by preventing virus from intruding into the body of a mask-worn user without giving the sense of discomfort such as a stifled feeling to the user. ;SOLUTION: The mask 1 comprises a mask body 2 and gauze 3. The mask	JP

						body 2 covers the oral cavity peripheral edge parts including the nasal head part 4a, the lower jaw part 4b, and both jaw joint parts 4c on the face 4 of the user in such a state that the mask is worn to the face 4 of the user. For example, the mask body 2 is provided with a metal base 5 on which a plurality of projections 6 are formed, and each of the projections 6 is provided with a through-hole communicating with the inner surface 7 and the outer surface 8 of the mask body 2. The plurality of projections 6 are provided on the base 5 as to be raised from the outer surface 8 of the mask body 2 on the side opposite to the inner surface 7 facing the face 4 of the user. A covering layer 9 containing a titanium oxide is formed on the outer surface 8 of the mask body 2. ;	
154	JP20110525028	01.06.2009	JP201250497 4 (A)	TRUTEK CORP (US)	Electrostatically charged mask filter products and method for increased filtration efficiency	A surgical or permeable mask are used to stop contaminants from entering the mouth and nose of patients and, people administering healthcare or working in other areas where there is a potential danger of airborne contaminants such as particulates, pollutants, bacteria, viruses, or other	US

						dangerous particles entering the oral and nasal passages. The Present Invention provides increased filtration efficiency of these masks by creating an electrostatic field that attracts and captures oppositely charged contaminants and repels similarly charged contaminants.	
155	KR20030036976	10.06.2003	KR20040106 959 (A)	NO SEONG HOON (KR)	STERILIZING MASK MADE OF COPPER FIBER FOR REMOVING ODOR OF MOUTH, WHICH IS GENERATED FORM WEARING MASK	A sterilizing mask made of copper fiber is provided to remove the odor of a mouth that is usually generated from wearing of a mask, and protect a mask wearer from virus and contagious respiratory diseases. CONSTITUTION: The sterilizing mask made of copper fiber includes an inner coat(1) and an outer coat(2). For the inner coat(1) and the outer coat(2), at least one strand of ultra micro copper yarn(1a,2a) is weaved with cotton yarn in a horizontal direction. Also, copper knitted(3) is inserted between the inner coat(1) and the outer coat(2), in which the copper knitted(3) is prepared by weaving at least one strand of ultra micro copper yarn(3a) together with negative ion(or anion) fiber in a lattice pattern. The negative ion fiber is	KR

						made of negative ion generating cotton yarn.	
156	KR20140021761	25.02.2014	KR101479200 (B1)	PARK NAM JOON [KR]	NOSE MASK FOR PREVENTING INHALATION OF VIRUS, FINE DUST AND BACTERIA	The present invention relates to a nose mask for preventing inhalation of virus, fine dusts, and bacteria inserted into the nasal cavity. Specifically, the nose mask for preventing penetration of virus, fine dusts, and bacteria inserted into the nasal cavity prevents inhalation of virus, fine dusts, and bacteria into a body by attaching the virus, fine dusts, and bacteria to the surface of an attachment plate inside the nose mask by accelerating the rate of external air inhaled into the nose. When a user wears the nose mask according to the present invention, the nose mask accelerates the rate of the air inhaled into the nose, and efficiently attaches virus, fine dusts, and bacteria to the nose mask, thereby having an effect of preventing diseases caused by virus, fine dusts, and bacteria	KR

						by preventing inhalation into the body	
157	KR20150042226	26.03.2015	KR20160020 339 (A)	HAN KI EON [KR]	SAFE MASK	The present invention provides a safe mask, which enables a user to perform nasal respiration in a vertical direction from the upper end of the nose to maintain mask functionality even when it rains as well as to prevent fogging of glasses if the user wears the glasses, purifies various kinds of viruses and fine dust as air flows through a filter during respiration, and generates anions and natural background radiation like far-infrared radiation from the mask itself to block the viruses. The safe mask according to the present invention comprises: a mask body having an area to cover the lower side of the eyes on the face and forming ear band parts on both sides in one body to be worn at the ears; a nose holding part protruding to the front from the upper part to the middle part of the center of the mask body to hold the nose of the	KR

						user; two insertion protrusions protruding upwards from the inner lower side of the nose holding part and forming penetrated holes downwards to be inserted into the nostrils of the user respectively for enabling the user to breath; a filter holding space formed on the lower side of the nose holding part to communicate with the penetrated holes; and a filter member fitted into the filter holding space to be attachable and detachable for filtering abnormal materials or the viruses during respiration	
158	KR20180009933	26.01.2018	KR10198926 9 (B1)	JEONG WOOK [KR]	APPARATUS FOR MANUFACTU RINIG A DISPOSABLE GARMENTS	The present invention relates to a disposable garment manufacturing apparatus, which, by folding after applying a two-component adhesive for each part of a surgical gown in a non-sewing method, can prevent viruses, liquids, or chemicals from being penetrated through sewing holes in advance	KR
159	US19870094712	09.09.1987	US4986282 (A)	STACKHOUSE WYMAN H [US]	Face shield system	There is herein described an improved anti-infection shield system designed for the protection of all health care workers from accidental exposure to body fluids from virus infected patients whereby an ultra-light face shield protects the eyes, nose and oral	US

						cavity from inadvertent splashing of patient blood or other body fluids, the shield being very light in weight, optically clear, and readily replaceable	
160	US20070724105	14.03.2007	US20082233 71 (A1)	GUILLORY SAMUEL L [US]	Nose guard mask	A nose guard mask made from thin polymeric film has a nostril filter element permanently bonded thereto. The remaining mask portion is coated with a skin nourishing moist cream. When the mask is applied to the nose of the user, the nostril filters line up with nose nostrils of the user. The mask portion is attached to the user's face by surface tension forces of the skin nourishing, moist cream that emits a pleasant fragrance to block unwanted odors. The mask is unobtrusive, having a relatively small size and designed color that make it barely visible. It provides nourishment to the skin of the user, and filters dust, pollen, infectious bacteria and viruses to thereby protect the wearer against infections caused by germs. A nose bridge bendable strip may be adhesively attached to the polymeric film at the bridge location to provide additional	US

						support for the mask. The ends of the bendable strip may be adhesively coated on both ends to act as a nasal dilator.	
161	RU20170101629	17.04.2017	RU2654400 (C1)	OBSHCHESTVO S OGRANICHENNOJ OTVETSTVENNOSTYU KIT OOO KIT [RU]	MEDICAL PROTECTIVE MASK OF REGULATED SIZE	medical protective mask comprises a sheet of a rectangular-shaped respiratory unit with transverse folds made of non-woven filter material, contains a device for attaching the mask to the head, made in the form of a breech loop or a string, contains a nasal device, made in the form of a flexible inelastic elongated strip-insert, sewn into the upper edge of the respiratory unit, it contains additional flexible oblong stripes - inserts sewn into the canvas of the respiratory unit parallel to the nose cover. Patented technical solution is a design that has the following essential distinctive features: sheet of the respiratory unit is made three-layered, the outer layer intended for contact with the surrounding space, and also the inner layer intended for contact with the face, are made of a material of the spunbond type	RU

						based on polypropylene, and the middle layer is made of a meltblown material based on polypropylene, the first from the upper edge of the respiratory unit of the fold is made with a fold of the sheet up, and second and third folds, respectively, with folds of the sheet down, the middle additional flexible oblong strip- insert is sewed between the first and second folds and is made of an elastic material, lower additional flexible oblong strip- insert is sewn into the lower edge of the respiratory unit and is made of an inelastic material.EFFECT: invention relates to devices intended to protect respiratory organs from various harmful contaminants contained in the air, such as dust, bacteria, viruses, aerosols and the like.13 cl, 3 dwg	
162	WO2009US0068 1	02.02.2009	WO2009099 591 (A2)	YUMA TRIO LLC [US]; LOESER EDWARD A [US]	MINI- NASAL MASK	A mini-nasal filter including a filter element and an anchoring arrangement adapted to hold the filter element in registration external to, and under, a user's nose. An operable anchoring arrangement includes one or more section of adhesive tape that can be affixed to the user's nose, and/or lip. The filter element may carry a masking scent, or be	US

						impregnated with a substance to enhance adherence of particulate matter to the filter. Certain masks may include a bioactive agent to resist germs, bacteria, and viruses, and/or a treatment compound for nasal therapy	
163	VN2-2010-00163	28/07/2010	2-0001286	Đinh Lai Thịnh (VN)	MÁY ĐO KINH LẠC 25 KÊNH	Giải pháp hữu ích để xuất máy đo kinh lạc 25 kênh bao gồm 25 đầu cảm biến được thiết kế giống nhau để đo nhiệt độ tại 24 điểm huyệt trên 10 đầu ngón tay và chân, và một điểm môi trường. Tín hiệu đo được được đưa tới bộ ghép kênh để đưa vào bộ xử lý trung tâm. Tại bộ xử lý trung tâm, các tín hiệu đo được sẽ được xử lý để xác định sự chênh lệch nhiệt độ giữa các điểm huyệt tại cùng một thời điểm. Kết quả về chênh lệch nhiệt độ được tham chiếu với kết luận chẩn đoán đã được lưu trữ sẵn trong cơ sở dữ liệu trên máy tính, sau đó thông tin về nhiệt độ đo được cũng như kết luận chẩn đoán tương ứng sẽ được đưa tới máy tính để hiển thị trên màn hình của máy tính	VN

164	VN1-2017-00834	7/3/2017	55459A	HOMEWAY TECHNOLOGY CO., LTD. (TW)	BĂNG QUẦN ĐẦU DẠNG ĐEO DÙNG CHO CÁ NHÂN CÓ CHỨC NĂNG ĐO NHIỆT ĐỘ VÀ CHỨC NĂNG HỒNG NGOẠI XA	Sáng chế đề cập đến băng quần đầu dạng đeo dùng cho cá nhân (100) có các chức năng đo nhiệt độ và hồng ngoại xa bao gồm phần thân băng quần đầu (1) xác định không gian chứa băng quần đầu (10) và có các hạt hồng ngoại xa (12) được trộn trong phần thân băng quần đầu (1), ô trống (113) thông với không gian chứa băng quần đầu (10), và lỗ xuyên (114) thông với không gian chứa băng quần đầu (10) và đối diện với ô trống (113). Bộ đo nhiệt độ (3) được đặt trong không gian chứa băng quần đầu (10) và bao gồm bộ phận đo nhiệt độ (35) được tạo két cấu để tiếp xúc với trán của người sử dụng để đo nhiệt độ, và màn hình hiển thị (33) có vị trí tương ứng với ô trống (113) và được tạo kết cấu để hiển thị nhiệt độ được đo bởi bộ phận đo nhiệt độ (35)	TW
165	CN20171130227 1	17.03.2015	CN10792863 5 (A)	SHEN BAOXIA CN)	Intelligent continuous hum an body thermo meter	The invention relates to an intelligent continuous human body thermometer. The intelligent continuous human body thermometer has the advantages that the thermometer can be fixed on the clothes of a to-be- monitored person (under the person's arm or around a collar) or worn on the wrist, and accurate human body temperature is	CN

measured through infrared spectrum emitted by the body surface of the to-be-monitored person; temperature data is managed through a terminal, and the terminal can receive and store monitored human body temperature data and analyze and process the data; the thermometer is connected with terminal display equipment through WIFI, the thermometer transmits the monitored data to the terminal with a receiving module through wireless network transmission equipment in a controlpart in real time, body temperature can be continuously monitored around the clock, cloud transmission and mobile inquiry are achieved, the relation of the master terminal and the slave thermometer is adopted, the current body temperature of one or more to-be-monitored persons is obtained through network cloud data, temperature difference in a certain period of time is analyzed and processed, andthe terminal sends an automatic reminder if the temperature or the temperature difference exceeds a terminal set value

166	CN20161010645 7	26.02.2016	CN10576913 0 (A)	YAN DINGYUAN; LAI DEMIN; FANG XIAOWEI (CN)	Device and method for measuring te mperature of hu man body	The invention relates to a device for measuring the temperature of a human body. An infrared temperature sensor is used for carrying out temperature sampling on $M*N$ sampling points, M is larger than or equal to 3, and N is larger than or equal to 3. The device is characterized in that the temperature measured at each sampling point is compared with the effective temperature section of the human body, the temperatures within the effective temperature section of the human body are averaged, and the obtained average temperature is the temperature of the human body. According to the device, the temperatures of the sampling points including a measured object are collected, so that the defect that a single-point temperature measuring mode is prone to be influenced by the environment is effectively overcome, the influence that the sampled temperatures are abnormal due to the outside of the human body and shielding of clothes is eliminated through effective temperature screening, the accuracy of body temperature measurement is improved, the	CN
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						temperature of a measured person can be mastered in real time, and life of people is convenient	
167	CN20161018249 9	28.03.2016	CN10723843 9 (A)	XIAMEN SHENZHOUYING SOFTWARE TECH CO LTD (CN)	Method for automatically measuring human body temperature via use of images and two-dimensional stepping motor device	The invention discloses a method for automatically measuring human body temperature via use of images and a two-dimensional stepping motor device. The method comprises the following steps: a camera is mounted at a position where human head portraits can be collected, a square-shaped zone is delimited, four points of the square-shaped are used as four positioning points for the two-dimensional stepping motor device, the two-dimensional stepping motor device moves in the zone according to the four positioning points, gravity data is obtained via a gravity sensor, and the camera is started for photographing after the controller obtains the gravity data; after photographing operation is performed via the camera, the images are analyzed and therefore a position of a forehead can be obtained; the two-dimensional	CN

						stepping motor device rotates to a position below the forehead, and human body temperature can be obtained through measuring operation performed via an infrared sensing device and can be broadcast via a voice broadcasting system. Human body temperature can be rapidly and accurately measured via the method disclosed in the invention, simple and convenient measurement can be realized, temperature changes of a kid in a period of time can be recorded, and the method is suitable for popularization and use at places such as kindergartens, primary schools and the like.	
168	CN20162145051 2U	28.12.2016	CN20679239 0 (U)	UNIV LULIANG (CN)	Human integument temperature measuring device	The utility model belongs to the technical field of the temperature measurement and specifically relates to a human integument temperature measuring device is disclosed. The utility model discloses a technical scheme do: a human integument temperature measuring device which characterized in that includes: sensor array for detect the human integument temperature, be voltage signal with shell temperature data conversion, and transmit voltage signal to	CN

						instrument amplifier, the instrument amplifier for enlarge received voltage signal and transmit voltage signal to adc, adc for be data signal with received analog signal transition, and transmit data signal to singlechip, microprocessor is according to the received digital signal control display, the display for the receive microprocessor instruction shows corresponding temperature, precision constant current source establishes ties in the return circuit for provide accurate electric current, the utility model has the characteristics of can accurate collection shell temperature data, wide application in traditional chinese medical science research and traditional chinese medical science clinical diagnosis field	
169	CN20172077073 3U	29.06.2017	CN20699012 6 (U)	MOOSENSOR AEROTECHNICS TAICANG CO LTD (CN)	Quick human temperature measurement structure	The utility model relates to a body temperature detection device field, concretely relates to quick human temperature measurement structure. This quick human temperature measurement structure begins to crop up and thermostatic chambers including the metal, the front end that the metal was begun to crop up is equipped with thermostatic	CN

						chambers, just be equipped with the temperature sensitive chip of connecting the lead wire in the thermostatic chambers. The utility model has the advantages of this temperature measurement structure adopts thermostatic chambers's structure, it derives to make the temperature do not connected the object, can reach temperature balance rapidly to reach accuracy, rapid temperature measurement mesh	
170	CN20171058096 1	17.07.2017	CN10724030 8 (A)	ANQING ZHUANGYUANLANG ELECTRONIC SCIENCE & TECH CO LTD	Talking pen capable of measuring human body temperature	The invention discloses a talking pen capable of measuring human body temperature. The talking pen comprises a talking pen shell and a pen tip, wherein a loudspeaker is arranged above the talking pen shell, a working indicator lamp is arranged below the loudspeaker, an LED display is arranged below the working indicator lamp, a key area is arranged below the LED display, a power key is arranged at the center of the key area, a volume increase key is arranged above the power key, a volume reduction key is arranged below the power key, a translation key is arranged on the left side of the power key, a pause/play key is arranged on the right side of the power key, a temperature	CN

						induction area surrounding the talking pen shell by one circle is arranged below the key area, temperature induction probes are evenly distributed on the temperature induction area, the pen tip is arranged below the temperature induction area, an earphone jack, a USB interface and a TF card socket are arranged on the side surface of the talking pen shell sequentially from top to bottom, a central processing unit is arranged inside the talking pen shell, and a TF card is arranged below the central processing unit	
171	CN20172087736 6U	19.07.2017	CN20865934 6 (U)	HANGZHOU NANOCHAP ELECTRONICS PTY LTD (CN)	Human tempera ture monitoring equipment	The utility model relates to a human temperature monitoring equipment, including equipment principal with remind the module, remind the module pass through bluetooth or wireless network and equipmentprincipal realizes the data connection, and equipment principal includes temperature induction module, data processing module and power module, and data processing module gives the data feedback who handles and reminds the module and pass through the warning module shows reminds, is provided with to install for a long time on equipment principal to articulate	CN

						the piece on human ear. Simultaneously, the monitoring facilities in the invention can keep real -time and monitors human temperature to can in time remind through removing APP, it is convenient to monitor, reminds the feedback convenient.	
172	CN20171074123 4	25.08.2017	CN10749593 1 (A)	UNIV TIANJIN (CN)	Device based on optical principle for measuring hum an body temper ature field	The invention discloses a device based on an optical principle for measuring a human body temperature field. The device comprises a plurality of optical fiber bragg grating temperature sensors, a coupler, an optical circulator and a broadband light source driven by a voltage stabilization power supply, wherein the coupler, the optical circulator and the broadband light source are sequentially connected with one another through transmission optical fibers; optical signals of the broadband light source are sequentially divided into multiple paths through the optical circulator and the optical fiber coupler and input into all the optical fiber bragg grating temperature sensors; reflected optical signals of all the optical fiber bragg grating temperature sensors are coupled by the optical fiber coupler and	CN

						then transmitted to the optical circulator, an optical fiber demodulation instrument demodulates the wavelength variations of the optical fiber bragg grating temperature sensors to electrical signals from optical signals and transmits the signals to a computer, and finally, the temperature field distribution of an area where all the optical fiber bragg grating temperature sensors are located can be obtained. The device based on the optical principle for measuring the human body temperature field has the advantages of being small in size, low in weight, compatible with the optical fibers, low in insertion loss, high in measurement precision, short in response time, good in long-term performance stability and the like, and is especially suitable for application in severe environment such as strong electromagnetism	
173	CN201710840420	18.09.2017	CN107644205 (A)	SHENZHEN SIWEISHU TECH CO LTD (CN)	Human body temperature measuring system and method	The invention provides a human body temperature measuring device. The human body temperature measuring device comprises a camera device, a thermal imaging device which is arranged beside the camera device, and a central control	CN

						device. The camera device is used to capture a human face image and recognize a plurality of human face parts in the human face image. The thermal imaging device shares the same view window with the thermal imaging device and is used for acquiring the temperature of the plurality of human face parts. The central control device is used to acquire the temperature of a human body according to the temperature of the plurality of human face parts. The invention further provides a human body temperature measuring method	
174	CN20181011070	05.01.2018	CN10790722 9 (A)	WANG HAO (CN)	Human body temperature collection and recognition system and method	The invention discloses a human body temperature collection and recognition system. The system comprises marked thermometers and a temperature measurement device, wherein each thermometer is marked, a bar code is attached to a glass column above a glass bulb, a vertical line of the bar code is vertical to a mercury column, and Arabic numeral markers are attached to the upper part of the bar code; the temperature measurement device comprises a main body structure and an upper cover body; a bearing round disc for placing the	CN

						thermometers is arranged in the main body structure, and the surfaceof the bearing round disc is produced from a silica gel material; and a hole is formed in the round center of the bearing round disc and sleeves a rotating shaft of a stepping motor, a bulge for location is arranged on the rotating shaft of the stepping motor, a slot corresponding to the bulge is formed in the opening of the bearing round disc, and the bulge and the slot are tightly buckled so asto initially locate the bearing round disc. According to the human body temperature collection and recognition system and method, the working efficiency of a hospitalizing system of a hospital is greatly improved, the human error is reduced, and the temperature measurement accuracy is improved.	
175	CN20181043537 1	09.05.2018	CN10852385 7 (A)	ZHONGZHEN MEDICAL TECH CO LTD (CN)	Scanning method and device for measuring radiation temper ature of human body surface	Provided is a scanning method for measuring the radiation temperature of a human body surface. An infrared thermal imaging detector is used to perform one-by-one pixel translation or vertical movementwith respect to a measured object, human body	CN

surface radiation temperature distribution images are collected continuously, the radiation temperature of a pixel corresponding to any fixed point in the measured object is extracted one by one from all the collected human body surface radiation temperature distribution images according to the movement direction, the adding cumulative calculation is performed to obtain the average radiation temperature of any fixed point of the measured object and the average radiation temperature is taken as a credible temperature, finally the credible temperature values of all the fixed points of the measured object form a credible infrared thermal imaging temperature distribution image of the human body surface through image reproduction software according to original coordinates. A device for implementing the method includes the infrared thermal imaging detector, a two-axis moving mechanism, a moving mechanism control system and a computer. According to the method and device, the influence caused by dead pixels of the infrared thermal imaging detector

						is solved, and measured data is more accurate	
176	CN20181112802	31.08.2018	CN109222916 (A)	SHANGHAI LEILE INTELLIGENT TECH CO LTD (CN)	Device and method for measuring basic body temperature of human body	The invention discloses a device and a method for measuring the basic body temperature of a human body. The device for measuring the basic body temperature of the human body comprises a temperature measuring part, a hand ring and a mobile terminal. The temperature measuring part comprises a body temperature measuring module, an ambient temperature measuring module, a first power supply, a first data processing module and a first Bluetooth communication module. The bracelet comprises a heart rate sensor, an acceleration sensor, a second power supply, a second data processing module and a second Bluetooth communication module. The mobile terminal comprises a third data processing module, a third power supply, a display screen and a third Bluetooth communication	CN

						module. The device has advantages that the basic body temperature data of a human body can be accurately measured	
177	CN20181132458 1	08.11.2018	CN10954963 5 (A)	HUNAN YIFENG ANAN NETWORK TECH CO LTD (CN)	Dynamic on-line measuring method of body temperature of human body and wearable equipment	The invention discloses a dynamic on-line measuring method of the body temperature of a human body and wearable equipment. The dynamic on-line measuring method comprises the following steps of acquiring body surface temperature of the human body and temperature of environment nearby a temperature measuring point of the body surface temperature at the same time; and calculating the body temperature of the human body according to the following formula: the body temperature is equal to A*the body surface temperature * the body surface temperature +B* the body surface temperature +C* (the body surface temperature-the environment temperature) -D, wherein the A, the B, the C and the D are constants. According to the dynamic on-line measuring method disclosed by the	CN

178	CN20181142994 7	28.11.2018	CN10969198 9 (A)	WUHAN GUIDE SENSMART TECH CO LTD (CN)	Human body temperature measuring method based on infrared human face detection technology	<p>invention, a two-point temperature measuring method is adopted, and according to the measuring data of massive crowds, a real-time dynamic body temperature optimizing calculation algorithm is provided, so that the limit of a single-point indoor body temperature measuring method is effectively made up, the dynamic and accurate measurement of the body temperature is realized, and the body temperature situation of the human body in different temperature environments can be accurately reflected.</p>	CN

						area, which is corresponding to the human face area in the infrared image, in a visible light image; using a visible light human face detection technology to judge whether a human face area exists in the area, which is corresponding to the human face area in the infrared image, in the visible light image; if the result is positive, taking the over-temperature points as alarming temperature points, and giving off an alarm. The false alarm caused by image matching and synchronization between infrared light and visible light is avoided, and missed alarm caused by light and skin sensitivity of a visible light human face detection technology is prevented	
179	CN20191016209 4	04.03.2019	CN10984646 3 (A)	WUHAN XUNJIAN TECH CO LTD	Infrared human face temperatur e measuring method, system, device and storage medium	The present invention discloses an infrared human face temperature measuring method, a system, a device and a storage medium. Current visible light images and current infrared images detected by an infrared temperature measuring probe are received; the current visible light images are subjected to human face detection to obtain position information of a human face in the current visible light images; and the position	CN

information in a corresponding current infrared human face area in the current infrared images is determined based on a coordinate conversion algorithm; the current infrared humanface area is subjected to temperature measuring to obtain temperature information of the current infrared human face area, a human face detection technology is combined with an infrared thermal imaging temperature measuring technology to accurately position the human face and conduct infrared human body temperature measuring, solve a problem of object over-temperature false alarm in the current temperature measuring system and improve accuracy of body temperature screening of human, and at the same time, a multi-channel parallel data transmission algorithm is cooperated, multi-channel real-time visible light and infrared temperature measuring video data are displayed on a single control computer to improve system stability and economic availability.

180	CN20191029181 8	04.04.2019	CN11002529 4 (A)	LU TONGGANG (CN)	Device for automatically detecting and recognizing human body temperature and application method thereof	The invention discloses a device for automatically detecting and recognizing human body temperature and an application method thereof. The front side of a shell of the device is provided with a face recognition camera, a human body temperature infrared detection head, a display screen and a body temperature alarm module, the shell is internally provided with a control module and a communication module which are connected with each other, the output ends of the face recognition camera and the human body temperature infrared detection head are separately connected to the control module, and the display screen and the body temperature alarm module are separately connected to the control module. The method comprises the following steps: carrying out face recognition on a person through the face recognition camera to determine the identity of the person, and simultaneously detecting the body temperature of the person through the human body temperature infrared detection head, and recording the identity and the body temperature information of the	CN
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						person; and if the body temperature of the person exceeds a preset threshold value, outputting alarm information through the body temperature alarm module. The device can realize the automatic detection of human body temperature in a key area of disease early warning monitoring, has high detection accuracy and quick information transmission, and can provide complete and reliable data for realizing accurate disease early warning monitoring and prediction.	
181	CN20191036851 4	05.05.2019	CN11016067 0 (A)	SHENZHEN CIMC SECURITY AND SMART TECH CO LTD; SHENZHEN CIMC TECH CO LTD; DONGGUAN CIMC INTELLIGENT TECH CO LTD; CHINA INT MARINE CONTAINERS GROUP CO LTD (CN)	Human body temperature detecting device	The invention provides a human body temperature detecting device. The human body temperature detecting device is applied to a border crossing; the human body temperature detecting device comprises an infrared thermal imager, a 3D face recognition device, a temperature measuring compensation device and a controller; the infrared thermal imager is used for sensing the body temperature of a person to be tested in a preset area; the 3D face recognition device is used for obtaining a face image located in the preset area; the temperature	CN

measuring compensation device is used for measuring compensation information, and the compensation information includes an ambient temperature of the preset area; the controller is electrically connected to the infrared thermal imager, the 3D face recognition device, and the temperature measuring compensation device separately; the controller determines an initial temperature of a preset position of the face through the face image and the body temperature; the controller determines a compensation temperature according to the compensation information; and the controller determines an actual temperature according to the initial temperature and the compensation temperature. Therefore, the human body temperature detecting device can reduce the influence of the environment on the measuring structure, and the measuring precision is high; and meanwhile, the human body temperature detecting device can prevent the infection of diseases, and can be applied to a place with a large number of people

182	CN20191082675 5	03.09.2019	CN11063173 6 (A)	GUANGZHOU MIAOYILIAN TECH CO LTD (CN)	High- protecting- performance hu man body temp erature measuri ng device with cross infection preventing function	The invention relates to a high- protecting-performance human body temperature measuring device with a cross infection preventing function. The device comprises a shell, a display, a button, a detector and a connecting pipe; the connecting pipe, the detector and the shell are all cylindrical; the display and the button are arranged on the shell; the connecting pipe and the detector are arranged in the shell; the detector, the connecting pipe and the shell are coaxially arranged; one end of the detector is fixed on the connecting pipe; a data processing system is arranged in the connecting pipe; and a moving mechanism and two disinfection mechanisms are arranged in the shell. According to the high-protecting- performance human body temperature measuring device with the cross infection preventing function, the detector can be driven to move through the moving mechanism; the detector can be located in the shell when not being used, and therefore, the detector is prevented from being damaged by external forces; and in addition, sterilization and	CN
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						disinfection functions are achieved through the disinfection mechanisms, and cross infection is avoided.	
183	CN20191029181 8	04.04.2019	CN11002529 4 (A)	LU TONGGANG (CN)	Device for automatically detecting and recognizing human body temperature and application method thereof	The invention discloses a device for automatically detecting and recognizing human body temperature and an application method thereof. The front side of a shell of the device is provided with a face recognition camera, a human body temperature infrared detection head, a display screen and a body temperature alarm module, the shell is internally provided with a control module and a communication module which are connected with each other, the output ends of the face recognition camera and the human body temperature infrared detection head are separately connected to the control module, and the display screen and the body temperature alarm module are separately connected to the control module. The method comprises the following steps: carrying out face recognition on a person through the face	CN

						recognition camera to determine the identity of the person, and simultaneously detecting the body temperature of the person through the human body temperature infrared detection head, and recording the identity and the body temperature information of the person; and if the body temperature of the person exceeds a preset threshold value, outputting alarm information through the body temperature alarm module. The device can realize the automatic detection of human body temperature in a key area of disease early warning monitoring, has high detection accuracy and quick information transmission, and can provide complete and reliable data for realizing accurate disease early warning monitoring and prediction.	
184	CN20191071293 4	02.08.2019	CN11041160 5 (A)	WUHAN GUIDE SENSMART TECH CO LTD (CN)	Correction method for infrared- measurement hu man body temp erature	The invention relates to a correction method for the infrared-measurement human body temperature. The method comprises the steps that a limited area of basic crowd temperature collection is automatically learned, based on visitor human face temperature data collected in the limited area, the visitor human	CN

face temperature data is analyzed, whether or not the working time of one day needs to be divided into different time periods is judged, and if yes, the basic crowd temperatures in different time periods are calculated; one time period with the highest basic crowd temperature is determined, human face temperature data in other time periods is adjusted, so that the basic crowd temperatures in other time periods are identical to that in the time period with the highest temperature, after the human face temperature data is adjusted, all human face temperature data is sorted, and a main temperature distribution range and a temperature alarm value are calculated; according to the obtained main temperature distribution range and temperature alarm value, the collected temperature is corrected. The method adapts to body temperature change of the human body in the morning, afternoon and evening of one day under different regional climates and weather changes; the degree of dependence on experience of workers is lowered

185	CN20191082675 5	03.09.2019	CN11063173 6 (A)	GUANGZHOU MIAOYILIAN TECH CO LTD (CN)	High- protecting- performance hu man body temp erature measuri ng device with cross infection preventing function	The invention relates to a high- protecting-performance human body temperature measuring device with a cross infection preventing function. The device comprises a shell, a display, a button, a detector and a connecting pipe; the connecting pipe, the detector and the shell are all cylindrical; the display and the button are arranged on the shell; the connecting pipe and the detector are arranged in the shell; the detector, the connecting pipe and the shell are coaxially arranged; one end of the detector is fixed on the connecting pipe; a data processing system is arranged in the connecting pipe; and a moving mechanism and two disinfection mechanisms are arranged in the shell. According to the high-protecting- performance human body temperature measuring device with the cross infection preventing function, the detector can be driven to move through the moving mechanism; the detector can be located in the shell when not being used, and therefore, the detector is prevented from being damaged by external forces; and in addition, sterilization and	CN
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						disinfection functions are achieved through the disinfection mechanisms, and cross infection is avoided	
186	CN20191036851 4	05.09.2019	CN11016067 0 (A)	SHENZHEN CIMC SECURITY AND SMART TECH CO LTD (CN)	Human body temperature detecting device	The invention provides a human body temperature detecting device. The human body temperature detecting device is applied to a border crossing; the human body temperature detecting device comprises an infrared thermal imager, a 3D face recognition device, a temperature measuring compensation device and a controller; the infrared thermal imager is used for sensing the body temperature of a person to be tested in a preset area; the 3D face recognition device is used for obtaining a face image located in the preset area; the temperature measuring compensation device is used for measuring compensation information, and the compensation information includes an ambient temperature of the preset area; the controller is electrically connected to the infrared thermal imager, the 3D	CN

						face recognition device, and the temperature measuring compensation device separately; the controller determines an initial temperature of a preset position of the face through the face image and the body temperature; the controller determines a compensation temperature according to the compensation information; and the controller determines an actual temperature according to the initial temperature and the compensation temperature. Therefore, the human body temperature detecting device can reduce the influence of the environment on the measuring structure, and the measuring precision is high; and meanwhile, the human body temperature detecting device can prevent the infection of diseases, and can be applied to a place with a large number of people	
187	EP20170901762	13.12.2017	EP3603494 (A1)	LG ELECTRONICS INC [KR]	BODY TEMPERATURE MEASUREMENT DEVICE AND BODY TEMPERATURE MEASUREMENT APPARATUS C	The present invention provides a body temperature measurement device comprising: a main body which includes a first body comprising first and second regions and a second body mounted on the first body and which is extended in a first direction; a rubber cap	KR

					OMPRISING SAME	encompassing the first region, and formed so as to be insertable into the ear; a temperature sensor disposed in the second region and detecting, with respect to the first direction, a temperature having a specific sensing range; and first and second circuit boards electrically connected to the temperature sensor, disposed in the second region, and disposed in a second direction crossing the first direction	
188	JP20090076514	26.03.2009	JP201023039 2 (A)	TOSHIBA CORP; TOSHIBA CARRIER CORP (JP)	HUMAN BOD Y TEMPERAT URE MEASUR ING APPARAT US AND MEASUR ING METHOD OF THE SAME	To measure the temperature of a person, in a noncontact manner at low cost in an environment in which the position of the person is unfixed. ;SOLUTION: The human body temperature measuring apparatus 1 includes a photographing unit 11; an image analysis unit 21; an infrared dose measuring unit 31, a movable unit 41; a direction control means 51; a distance measuring unit 61; and a temperature correction means 71. The image analysis unit 21 analyzes an image photographed by the photographing unit 11 and recognizes the face of a person in the image. The infrared dosage measuring unit 31 measures an infrared dose from a predetermined measurement	JP

						range. The movable unit 41 and the direction control means 51 change the directions of the infrared dose measuring unit 31 and the distance measuring unit 61 so that they can confront the face of the person. The distance measuring unit 61 measures the distance between the infrared dose measuring unit 31 and the face of the person. The temperature correction means 71 corrects for the infrared dose measured by the infrared dose measuring unit 31 confronting the face of the person on the basis of the distance measured by the distance measuring unit 61 and acquires the temperature of the face of the person.	
189	JP20110129557	09.06.2011	JP5398784B2	TEIKYO HEISEI UNIV (JP)	DEVICE FOR HUMAN DYNAMIC FACE TEMPE RATURE CHA NGE MEASUREME NT BY THERMOGRA PHY AND MEASURING METHOD, AND CALIBRATOR	To provide a device or the like that can measure the temperature change of a human face or the like accurately, promptly, and continuously.SOLUTION: The device for human dynamic face temperature change measurement by thermography includes: an infrared camera (1); a calibrator (10) which comprises giving a black body covering (102) on at least a portion area of one side of a high thermal conductivity metal plate or metal foil (101); a	JP

					USED FOR THE SAME	converter (2) in which thermal image data output from the infrared camera are subjected to digital conversion; and a computer (3) in which a temperature of a face or the like of a subject is calculated based on the data from the converter corresponding to a prescribed program, wherein the computer (3) is programmed to perform the calibration when the temperature of the face or the like of the subject is calculated based on the photographing data of the black body covering (102) portion of the calibrator shot by the infrared camera (1). The time interval of the continuous shooting of the infrared camera is suitably set at least 1/100 second and at most one second.	
190	JP20180118147	21.06.2018	JP2019217098 (A)	TOPPAN FORMS CO LTD (JP)	BODY TEMPERATURE MEASUREMENT DEVICE-MOUNTED CLOTHING AND CLOTHING	To accurately measure a body temperature without a user's complicated work.SOLUTION: Body temperature measurement device-mounted clothing is configured so that a body temperature measurement device 10 is housed in a housing part 22 of the clothing. The body temperature measurement device 10 includes: a body temperature sensor 12 for measuring a	JP

						temperature of a skin; and a frame for holding the body temperature sensor 12. The housing part 22 is constituted by covering parts 23a, 23b made from material having elasticity and a body part 21's area facing the covering parts; houses the body temperature measurement device 10 in a state in which the device is oriented so that the body temperature sensor 12 faces a human body when the closing is worn on the human body and the device can be taken out; and has a window part 25 in an area that has a width in at least one direction equal to or shorter than the housed body temperature measurement device 10's width in the direction and faces the body temperature sensor 12. The body temperature sensor 12 protrudes from a surface of the frame by a length equal to or longer than a thickness of the material constituting the housing part 22.	
191	KR20180081102	12.07.2018	KR20200007 239 (A)	JUNIV NAT CHONNAM IND FOUND [KR}	Infrared ray body temper ature detection device applying position control method	The present invention relates to an infrared body temperature detection device to which a position control method is applied, an infrared sensor unit for obtaining a thermal image by detecting an infrared ray emitted from a subject adjacent to the	KR

						frame and provided in the frame. It is installed on the infrared sensor unit to rotate the infrared sensor unit in the vertical direction or the left and right directions so as to expand the range of the infrared sensor unit, and to obtain a thermal image of the entire body of the subject And a control unit for controlling the rotation unit. The infrared body temperature detection device using the position control method according to the present invention rotates or moves the infrared sensor unit by the rotation unit and the moving unit to obtain a thermal image of the object to be measured, so even if an infrared sensor having a relatively small number of image pixels is used, There is an advantage in that it is possible to easily acquire a thermal image of the entire body of a person or a local part of the body.	
192	KR20180097397	21.08.2018	KR20200021 711 (A)	AMOTECH CO LTD [KR]	System for managing body temperature based on patch type thermometer and method thereof	Provided are a patch type thermometer-based body temperature management system and a method thereof. A patch type thermometer-based body temperature management system, according to one embodiment of the present invention, comprises:	KR

						a patch type thermometer which is attached to the skin of a user to measure body temperature, and transmits a user ID, related application (App) information, and body temperature data on the basis of NFC; a terminal configured to form a magnetic field by tagging the patch type thermometer, to request a body temperature measurement, and to receive the user ID, the related App information, and the body temperature data from the patch type thermometer to calculate a body temperature value; and a body temperature management server configured to receive the body temperature value from the terminal, accumulate and store the received body temperature value to calculate at least one of changes in body temperature over time and a state of health according to the received body temperature value and transmit same to the terminal.	
193	KR20180111217	18.09.2018	KR20200032 331 (A)	JI JONG WAN [KR]	Smart body tem perature patch and system using it	The present invention relates to a smart body temperature patch and a smart body temperature patch system using the same, in particular, a body unit including a temperature sensor unit attached to a wearer's body to measure body temperature; An attachment	KR

						portion including an attachment member on the rear surface of the body portion; A communication unit that transmits the measured body temperature information and the identification information to separate terminals; And it relates to a smart body temperature patch and a smart body temperature patch system using the same, characterized in that for checking the change in the wearer's 24-hour body temperature in real time through a smartphone app, including a power supply for supplying power.	
194	US19790091042	05.11.1979	US4302971 (A)	CARICE INT PROD	Liquid crystal temperature indicator for measuring human body temperature	A liquid crystal temperature indicator measures human body temperatures. The temperature indicator comprises a generally planar member for retention against an outer surface of a body. A number of deposits of liquid crystals, each activatable within a predetermined temperature range to be measured, are arranged behind temperature-indicating numerals. At a temperature within the predetermined temperature range, at least one of the deposits emits or reflects visible radiation to make corresponding numerals visible for indicating the surface temperature of the body.	EP

						However, numerals are calibrated to the corresponding oral temperatures. A non-water soluble lacquer coating protects the deposits from moisture or humidity.	
195	US19920842129	11.03.1992	US5293877 (A)	SHERWOOD IMS INC [US]	Body temperature thermometer and method for measuring human body temperature utilizing calibration mapping	A body temperature thermometer has a probe head assembly (8) which includes a first sensor (10), such as a thermopile, for generating a first output signal representative of an amount of infrared radiation impinging thereon. The probe head assembly further includes a waveguide (16) and a surrounding hollow probe (14) for receiving infrared radiation emitted by a biological surface tissue, such as the external ear canal and tympanic membrane of a patient, and directing the radiation to the first sensor. A second sensor (12) is mounted in the probe head assembly for generating a second output signal representative of a temperature of the first sensor. A third sensor (26) is thermally coupled to the waveguide for providing a third output signal representative to the temperature thereof. A processor (30) is connected to the sensors	US

						for processing the output signals to determine a body temperature of the patient utilizing a calibration mapping of a plurality of target temperatures to corresponding output signals taken over a predetermined range of ambient temperatures. A display (34) is driven by the processor for providing a user with a visual indication of the determined body temperature.	
196	US20131407329 4	02.03.2011	US20130426 33 (A1)	KONINKL PHILIPS ELECTRONICS NV [NL]; CHESTAKOV DMITRI [NL]	TEMPERATU RE CONTROL APPARATUS AND METHOD FOR THERMOREG ULATION OF A HUMAN BO DY	The present invention relates to a temperature control apparatus for thermoregulation of a human body, comprising at least one radiation absorption panel with at least one surface capable of absorbing thermal radiation, and a cooling device provided to cool said panel. A sleeping accommodation for a human being comprises a lying area and such a temperature control apparatus, wherein the radiation absorption panel is disposed adjacent to the lying area or above the lying area. The invention further relates to a corresponding method for thermoregulation of the human body.	WO

197	US201314073294	06.11.2013	US2015126896 (A1)	ALHAZME RAED H [US]	HUMAN BODY THERMAL MEASUREMENT DEVICE, A METHOD FOR MEASURING HUMAN BODY TEMPERATURE, AND A NON-TRANSITORY COMPUTER READABLE STORAGE MEDIUM	A human body thermal measurement device including a first sensor configured to measure a first temperature of a core part of the human body, a second sensor configured to measure a second temperature of a peripheral part of the human body, a third sensor configured to measure an ambient temperature surrounding the human body, a memory configured to store information on the first temperature, the second temperature and the ambient temperature, circuitry configured to calculate a difference between the first temperature and the second temperature, and change a first predetermined range according to the ambient temperature, and a user interface configured to output first alert when the difference is determined to be not within the first predetermined range by the circuitry.	US
198	US201615224121	29.07.2016	US2018028069 (A1)	VIVALNK INC [US]	Wearable thermometer patch for accurate measurement of human skin temperature	A wearable thermometer patch includes a flexible circuit substrate comprising an electric circuit and an opening, a thermally conductive cup having a bottom portion plugged into the opening and fixed to the flexible circuit substrate, and a	US

						temperature sensor inside the thermally conductive cup. The temperature sensor is in thermal conduction with the thermally conductive cup. The temperature sensor is electrically connected to the electric circuit in the flexible circuit substrate.	
199	US201715406380	13.01.2017	US10420473B2	VIVALNK INC [US]	Wearable thermometer patch for correct measurement of human skin temperature	A wearable thermometer patch includes a substrate and a temperature probe unit mounted in the substrate and configured to measure temperature of a user's skin. The temperature probe unit includes a force sensor configured to measure contact force between the temperature probe unit and the user's skin, a plate, a first temperature sensor attached to a lower surface of the plate, and a second temperature sensor attached to an upper surface of the plate	US
200	US201715438127	21.02.2017	US10422705B2	YEN DING YUAN [HK]; FANG HSAIO WEI [TW]	APPARATUS AND METHOD FOR MEASURING BODY TEMPERATURE OF A HUMAN BODY	The invention relates to an apparatus for measuring the human body temperature. It comprises of an infrared temperature sensor for performing temperature sampling on a plurality $M \times N$ of sampling points, $M \geq 3$, $N \geq 3$. The temperatures of the sampling points with temperatures within the effective temperature range of the human	CN

						body are averaged to obtain the body temperature of the human body. By collecting the temperatures of a plurality of sampling points of the measured object, the invention effectively avoids the errors that measurement of single point may produce (as may be caused by factors such as the environment); by screening for temperatures within the effective temperature range of the human body, the invention effectively avoids errors or interference produced by factors such as clothing or the environment. The improved accuracy and real-time measurement of body temperature bring convenience to people's lives	
201	US20171544994 3	04.03.2017	US20172388 11 (A1)	US GOV SEC ARMY [US]	Estimation of Human Core Temperature Ba sed on Heart Rate System and Method	The invention in at least one embodiment includes a method for determining the core body temperature of a person by setting an initial core body temperature with a processor; receiving a heart rate of the person with the processor; calculating a predicted core body temperature with the processor using an extended Kalman filter based on the heart rate and the initial core body temperature; and providing the	US

						predicted core body temperature. In another embodiment, a system for performing the method	
202	US20181598967 4	25.05.2018	US20190460 33 (A1)	BLUE SPARK TECH INC [US]	BODY TEMPERATURE LOGGING PATCH	An actively-powered temperature data logger patch with wireless data communication includes a first substrate layer, a second substrate layer, a non-adhesive release layer, and an electronics inlay disposed between the first and second substrate layers. The electronics inlay includes a sealed, flexible battery, and a flexible circuit having a temperature sensor. An outer face of the non-adhesive release layer has release properties. A replaceable adhesive includes a carrier substrate, a structural adhesive coated on a first face and attached to the outer face of the non-adhesive release layer, and a skin-contact approved adhesive coated on a second opposite face. In another example, an auxiliary sleeve having an exterior surface with an adhesive configured to be removably applied to a subject, may partially enclose the	US

						temperature data logger patch in an internal compartment.	
203	US20191666385 7	25.10.2019	US20200605 53 (A1)	MURATA MANUFACTURING CO [JP]	BODY TEMPERATURE MEASURING DEVICE	A body temperature measuring device includes a temperature detector including a first thermal resistor and a first pair of temperature sensors that sandwich the thermal resistor and continuously detect temperature data, and a second thermal resistor and a second pair of temperature sensors that sandwich the second thermal resistor and continuously detect temperature data. Moreover, an equilibrium state determination component determines whether the temperature detector is thermally in an equilibrium state based on detected temperature data, and a body temperature acquisition component acquires body temperature data based on temperature data detected when the temperature detector is in a thermal equilibrium state and a physical property value of the thermal resistors	US

204	WO2018CN1063 44	18.09.2018	WO2020056 612 (A1)	SHEN ZHEN UNIV [CN]	BODY TEMPERATURE MEASURING PROBE, BODY TEMPERATURE MEASURING DEVICE AND BODY TEMPERATURE MEASURING METHOD	A body temperature measuring probe comprises a temperature sensor, a heating assembly and a position control assembly; the position control assembly controls the contact or separation between the heating assembly and the temperature sensor. A method for measuring body temperature on the basis of the foregoing body temperature measuring probe comprises step 100: starting the temperature sensor; step 200: preheating the body temperature measuring probe to a preset temperature range; step 300: once the body temperature measuring probe is preheated to the preset temperature range, separating the heating assembly from the temperature sensor, and only making the temperature sensor participate in a thermal equilibrium process of the body temperature measurement; step 400: the temperature sensor working to obtain body temperature measurement data. Once the preheating of the temperature sensor is completed, the heating assembly and the temperature sensor are separated so that the temperature sensor may quickly reach a thermal	CN
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						equilibrium with a measured target; measuring time is thus shortened and high-precision body temperature measurement may be achieved.	
205	WO2019JP12017	22.03.2019	WO2019182096 (A1)	TOPPAN FORMS CO LTD [JP]	BODY TEMPERATURE MEASUREMENT DEVICE	The present invention is configured so that, during measurement of a skin temperature of a body through use of a skin temperature sensor, the start time of actual measurement and the measurement time are set, the skin temperature sensor is caused to perform temperature measurement at a first time interval a predetermined time before the set start time of actual measurement is reached, the skin temperature sensor or the skin temperature sensor and an outside temperature sensor are caused to perform temperature measurement at a second time interval in at least any of the conditions that the skin temperature has reached a first condition value, the rate of increase of the skin temperature has reached a	JP

						second condition value, and the temperature difference between an appropriate skin temperature and the outside temperature has reached a third condition value, and the measured temperature data and the measurement date/time are associated	
206	WO2019JP22568	06.06.2019	WO2020003 960 (A1)	NIPPON TELEGRAPH & TELEPHONE [JP]	INTERNAL B ODY TEMPER ATURE MEAS UREMENT DEVICE AND INTERNAL B ODY TEMPER ATURE MEAS UREMENT METHOD	The purpose of the present invention is to provide an internal body temperature measurement device capable of more accurately estimating the temperature of a core part that changes from moment to moment. This internal body temperature measurement device 1 is provided with: a plurality of heat resistant bodies 101r-103r; temperature sensors 101s-103s for measuring the epidermal temperature of a living body and temperature sensors 101u-103u for measuring the top surface temperature thereof, the temperature sensors 101s-103s being provided on one end and the temperature sensors 101u-103u being provided on the other end of the respective heat resistant bodies 101r-103r; a memory 12 for storing an estimation model for estimating the temperature of the core part of the living body by	JP

						taking into account a thermal non-equilibrium state of the living body and heat resistance values RS1-RS3 of the heat resistant bodies 101r-103r; and a calculation circuit 11 for using the estimation model and the heat resistance values RS1-RS3 to estimate the temperature Tc of the core part of the living body on the basis of the plurality of temperatures measured by the temperature sensors 101s-103s and the temperature sensors 101s-103s.	
207	WO2019KR1040 7	06.08.2019	WO2020040 484 (A1)	AMOTECH CO LTD [KR]; MOBILE DOCTOR CO LTD [KR]	PATCH TYPE THERMOMETER-BASED BODY TEMPERATURE MANAGEMENT SYSTEM AND METHOD THEREOF	Provided are a patch type thermometer-based body temperature management system and a method thereof. A patch type thermometer-based body temperature management system, according to one embodiment of the present invention, comprises: a patch type thermometer which is attached to the skin of a user to measure body temperature, and transmits a user ID, related application (App) information, and body temperature data on the basis of NFC; a terminal configured to form a magnetic field by tagging the patch type thermometer, to request a	KR

						body temperature measurement, and to receive the user ID, the related App information, and the body temperature data from the patch type thermometer to calculate a body temperature value; and a body temperature management server configured to receive the body temperature value from the terminal, accumulate and store the received body temperature value to calculate at least one of changes in body temperature over time and a state of health according to the received body temperature value and transmit same to the terminal.	
208	CN20181020801 1	13.03.2018	CN11026995 0 (A)	INST SEMICONDUCTORS CAS (CN)	Deep ultraviolet ray LED sterilizing and disinfecting system based on human body recognition	The invention provides a deep ultraviolet ray LED sterilizing and disinfecting system based on human body recognition. The deep ultraviolet ray LED sterilizing and disinfecting system comprises distributed deep ultraviolet LED sterilizing and disinfecting modules, a human body recognition module and a master controller, wherein the distributed deep ultraviolet LED sterilizing and disinfecting modules are distributed in a plurality of different positions of a disinfecting region; the human body recognition	CN

module is used for acquiring invasion staff information, and recognizing the staff invading the disinfecting region; and the master controller is connected with the human body recognition module and the distributed deep ultraviolet LED sterilizing and disinfecting modules, and is used for receiving the invasion staff information transmitted by the human body recognition module, and controlling start and stop of the distributed deep ultraviolet LED sterilizing and disinfecting modules according to the invasion staff information. The deep ultraviolet ray LED sterilizing and disinfecting system based on human body recognition disclosed by the invention can quickly and intelligently recognize the safety of a human body, so that the purposes of sterilizing and disinfecting are achieved, and ultraviolet ray injure is also avoided; and the deep ultraviolet ray LED sterilizing and disinfecting system based on human body recognition has important practical application significance

209	CN20191079370 6	27.08.2019	CN11044879 3 (A)	YANG ZHENWEI (CN)	Human body disinfection device	The invention relates to the technical field of disinfection, and concreately to a human body disinfection device. The human body disinfection device comprises: a disinfection unit, a monitoring unit and an infrared sensing unit; the infrared sensing unit is disposed in a disinfection area for detecting whether a person enters the disinfection area or not, and sends a first control signal to the disinfection unit when detecting that someone enters the disinfection area; and a second control signal is sent to the monitoring unit. The disinfection unit is disposed in the disinfection area for spraying the disinfection water to the disinfection area after receiving the first control signal; the monitoring unit is disposed toward the disinfection area, and is configured to capture a video of the disinfection area after receiving the second control signal, and sends a video to a preset smart terminal for storage by the smart terminal.	CN
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210	KR20150007240	15.01.2015	KR20160088 053 (A)	DONGSEO TECHNOLOGY HEADQUTERS [KR]; SEJINBIOTECH CO LTD [KR]	DISINFECTIN G APARATUS FOR HUMAN BODY	The present invention relates to a human body disinfecting apparatus and, more specifically, to a human body disinfecting apparatus connected to body temperature, which spraying a disinfectant to a user's whole body placed in a front surface and disinfecting the whole body, wherein the apparatus comprises: a temperature sensor which detects the user's temperature placed in a front surface of the apparatus; and a control unit which adjusts a spraying amount of the disinfectant depending on the temperature value detected from the temperature sensor. A disinfecting effect can be increased by spraying a more significant amount of the disinfectant to a user being of doubtful infection	KR
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