

Search history

Search PN=(CO20180002359) (Results 1)

1:

Search [SP]: *** warning: ocr data - may be incomplete ***** please email the publication number to patbase@rws.com of any affected text for review ***
2: campo de la invencion 5 esta invencion esta referida al campo del laminado automotriz. antecedentes de la invencion en respuesta a los requerimientos regulatorios del gobierno para una mayor economia de combustible automotriz, asi como la creciente conciencia publica y la demanda de productos 10 respetuosos con el medio ambiente, los fabricantes de equipos automotrices originales de todo el mundo han estado trabajando para mejorar la eficiencia energetica de sus vehiculos. uno de los elementos clave de esta estrategia para mejorar la eficiencia ha sido el control solar. al reducir la carga solar en el vehiculo, se pueden lograr mejoras sustanciales en el 15 consumo de energia, especialmente en climas mas calidos. ayuda a reducir la carga en la unidad de aire acondicionado y permite el funcionamiento del vehiculo con las ventanas cerradas, lo que mejora la aerodinamica. esto es especialmente importante para los vehiculos electricos, donde la mejora se traduce directamente en el aumento de la autonomia del vehiculo. 20 las dos principales tecnologias que se utilizan para mejorar el control solar son el vidrio absorbente de infrarrojos y el vidrio reflectante de infrarrojos. el vidrio absorbente de infrarrojos tiene un contenido de hierro mas alto que el vidrio 25 transparente ordinario, lo que le da un tono verdoso. los compuestos de hierro en el vidrio absorben la energia solar. tambien hay capas intermedias de plastico que se pueden usar con vidrio laminado que contienen compuestos absorbentes de energia solar que pueden lograr el mismo efecto. al absorber la energia antes de que ingrese al compartimiento de pasajeros, se reduce la carga solar en el vehiculo. sin embargo, si bien las ventanas que absorben los rayos 30 infrarrojos pueden ser muy efectivas para reducir la carga solar, el vidrio se calentara y transferira parte de la energia absorbida al compartimiento de pasajeros mediante transferencia por conveccion y radiacion. 1 un metodo mas eficiente es reflejar la energia a la atmosfera. esto permite que el vidrio permanezca mas frio al reducir la energia transferida a la cabina. esto se hace mediante el uso de varias peliculas y recubrimientos que son reflectantes de infrarrojos. 5 los recubrimientos y peliculas de infrarrojos generalmente no son lo suficientemente duraderos como para estar expuestos a los elementos. en su lugar, deben fabricarse como una de las capas internas de un producto laminado para evitar danos y degradacion. una de las ventajas de una ventana laminada sobre un vidrio monolitico templado es que un laminado puede hacer uso de estos recubrimientos y peliculas reflectantes de infrarrojos ademas de las 10 composiciones que absorben el infrarrojo y capas intermedias. es una practica comun utilizar una combinacion de tecnologias de absorcion de infrarrojos y reflectante de infrarrojos en el mismo laminado. una capa absorbente de infrarrojos se coloca detras de una capa reflectante de infrarrojos para absorber la energia restante que no se refleja. 15 los recubrimientos reflectantes de infrarrojos incluyen, pero no se limitan a los diversos recubrimientos de capas metalicas / dielectricas aplicadas a traves de deposicion al vacio por pulverizacion catodica con magnetron (msvd, por sus siglas en ingles) asi como otros conocidos en la practica que se aplican mediante metodos piroliticos, pulverizacion, deposicion quimica de vapor (cvd, por sus siglas en ingles), inmersion y otros. 20 las peliculas reflectantes de infrarrojos incluyen tanto sustratos de plastico con recubrimientos metalicos como peliculas opticas no metalicas de base organica que se reflejan en el infrarrojo. la mayoria de las peliculas reflectantes de infrarrojos estan compuestas por un sustrato de pelicula de plastico que tiene aplicado un recubrimiento metalico en capas 25 reflectantes de infrarrojos. uno de los inconvenientes, tanto del vidrio que absorbe el calor como del que refleja el calor, es que la reduccion de la carga solar esta presente todo el tiempo, incluso cuando no se necesita o no se desea. en climas mas frios y en momentos en que se necesita calor, seria 30 ventajoso tener la capacidad de utilizar la energia del sol para calentar el interior del vehiculo. con los motores de combustion interna (ice, por sus siglas en ingles), el calentamiento nunca fue un problema. los motores de combustion interna son muy ineficientes y, por lo tanto, hay 2 5 10 15 20 25 30 abundante calor residual disponible. un vehiculo con motor ice tipico tiene un calentador con una capacidad de 4-5kw. en un vehiculo electrico, hay algo de calor residual de la bateria, pero la mayoria, si no todo, el calentamiento de la cabina debe proporcionarse por medio de un sistema de calentamiento resistivo. seria deseable tener un tinte mas oscuro que absorba el calor para mantener la energia solar fuera, reduciendo la carga en el aire acondicionado, pero que sea capaz de dejar entrar la mayor cantidad posible de energia solar cuando se necesita calor. para controlar el nivel de transmision de luz y energia a traves del laminado, hay una serie de tecnologias disponibles: peliculas electrocromaticas, fotocromaticas, termocromaticas y sensibles a campos electricos que estan disenadas para ser incorporadas al vidrio laminado. son de particular interes las peliculas electrocromaticas, de dispositivos de particulas en suspension (spd, por sus siglas en ingles) y cristales liquidos dispersos en polimero (pdlc, por sus siglas en ingles) con las que podemos cambiar la transmitancia de la luz del vidrio en respuesta a una senal electrica. spd es una tecnologia de tinte variable con la que se puede controlar y variar el nivel de tinte en respuesta a un campo electrico aplicado. spd pasa de oscuro en estado apagado a menos oscuro en estado activado. en una pelicula de spd, gotas microscopicas de liquido que contienen particulas similares a agujas, valles de luz, se suspenden en una matriz. en estado desactivado, las particulas estan en un estado aleatorio de alineacion y bloquean la transmision de luz. el grado de alineacion y el tinte resultante se pueden variar en respuesta al voltaje aplicado. la transmitancia de la luz en los estados de encendido y apagado tambien se pueden modificar a traves de cambios en el espesor y la composicion del material activo. en estado desactivado, aun es posible ver claramente a traves de spd. pdlc es una tecnologia de dispersion de la luz que va desde el opaco en el estado apagado hasta el estado claro. en una pelicula de pdlc, gotas microscopicas de cristal liquido se suspenden en una matriz de polimero. en estado desactivado, los cristales liquidos se encuentran en un estado aleatorio de alineacion y dispersan la luz proporcionando privacidad. en estado apagado, la pelicula es sustancialmente opaca. cuando se aplica un campo electrico, los cristales se alinean y dejan pasar la luz. el grado de dispersion se puede 3 modificar variando la amplitud del voltaje aplicado. el nivel de transmitancia de la luz en los estados activado y desactivado tambien se puede modificar realizando cambios en el espesor y la composicion del material activo. pdlc es principalmente un producto de privacidad aunque tambien se puede usar para el control solar ya que reduce la energia solar transmitida. 5 los vidrios spd y pdlc se fabrican al agregar una capa de pelicula especial al laminado. la pelicula esta compuesta por el material activo intercalado entre dos capas delgadas de plastico que tienen un recubrimiento conductor transparente en cada una de ellas. 10 para su incorporacion en un laminado, se necesitan laminas de capa intermedia de plastico a cada lado de la pelicula para unir la pelicula a las otras capas del laminado. la pelicula se lamina entre dos capas adhesivas intermedias de plastico para formar un vidrio laminado. el vidrio electrocromico conmutable experimenta una reaccion quimica cuando se pasa una 15 corriente a traves del material activo, de forma muy parecida a como funciona una bateria cuando se carga y se descarga. el material activo se somete a una reaccion de oxidacion o reduccion a medida que los materiales cambian de claro a oscuro y viceversa. este es un proceso relativamente lento con la medida del tiempo de conmutacion en minutos. 20 spd y pdlc operan sin embargo en un principio diferente. no hay reaccion quimica. las moleculas que componen el material activo experimentan un cambio cinetico en respuesta a la presencia de un campo electrico. esta es la razon por la cual el tiempo de conmutacion de spd y pdlc se mide en segundos o fracciones de segundo lo que hace que los ordenes de magnitud sean mas rapidos que el vidrio electrocromico. esta es una de las principales 25 ventajas que los dos tienen sobre electrocromico. electrocromaticos, spd y pdlc pueden ser utilizados para el control solar ya que reducen el nivel de transmitancia de luz y la energia transferida a la cabina. 30 los laminados que incorporan estas tecnologias de transmitancia de luz variable algunas veces se conocen como vidrio "inteligente" o como vidrios conmutables. 4 una desventaja es que el vidrio inteligente solo puede operar en un rango limitado de temperatura. la viscosidad de las gotas microscopicas en las que se suspende el material activo (spd) y 5 del cristal liquido en si (pdlc) es una funcion de la temperatura. a medida que la temperatura disminuye, el tiempo de conmutacion aumenta. a temperaturas suficientemente bajas, el material no puede cambiar los estados. la temperatura real dependera de la formulacion. 10 a temperaturas elevadas, el pdlc llegara a un punto en el que se a (Results 2)

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Search ((fluid near cool+) near circuit) (Results 204)

5:

Search 5 and glass* (Results 22)

6:

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7:

Search 7 and (windshield or windscreen) (Results 802)

8:

Search 8 and (cool* or heat*) (Results 775)

9:

Search 9 and (fluid near (circuit* or channel*)) (Results 15)

10:

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11:

Search (windshield or windscreen) and (fluid near cool*) and glass* (Results 465)

12:

Search 12 and (channel* or circuit*) (Results 340)

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Search 16 and ((ethylene 1w glycol) or ethyleneglycol) (Results 79)

17:

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18:

Search 18 and glass* (Results 1006)

19:

Search 18 and fluid (Results 507)

20:

Search 20 and interlayer* (Results 62)

21:

Title: Coupled electrochromic compounds with photostable dication oxidation states

Abstract: Coupling of anodic electrochromic compounds by a covalent bond or a bridge link which provides for electronic communication between the coupled electrochromic compounds results in coupled electrochromic compounds which exhibit greater stability as well as electrochromic activity that differs from the monomeric electrochromic compounds. Extension of the absorption spectrum into the near-infrared region of the spectrum is frequently observed. The coupled electrochromic compounds are highly suitable for use in electrochromic media used to produce electrochromic devices.

Classifications:

International (IPC 8-9): B05D5/06 B05D5/12 B23K26/362 B23K26/402 B32B17/06 B32B17/10 B32B7/02 B32B7/14 B60Q1/26 B60R1/02 B60R1/04 B60R1/06 B60R1/07 B60R1/08 B60R1/12 C03C17/36 C09K9/02 C23C14/08 C23C14/18 C23C14/34 C23C14/46 C23C14/58 F16M13/02 G02B1/04 G02B1/10 G02B13/04 G02B27/00 G02B27/14 G02B5/08 G02B5/20 G02B5/26 G02B5/28 G02B7/182 G02F1/00 G02F1/01 G02F1/03 G02F1/061 G02F1/15 G02F1/153 G02F1/155 G02F1/157 G02F1/161 G02F1/163 H05K1/02 H05K3/32 (Advanced/Invention); B60R1/04 B60R1/06 B60R1/08 C23C14/08 C23C14/34 G02F1/1345 G02F1/15 G02F1/155 G02F1/157 G02F1/161 H05K1/03 (Advanced/Non-invention); B05D5/06 B32B7/02 B60R1/06 B60R1/08 B60R1/12 C23C14/46 G02B1/04 G02B27/00 G02B5/08 G02B5/20 G02B5/26 G02B5/28 G02F1/00 G02F1/01 H05K1/02 H05K3/32 (Core/Invention); H05K1/03 (Core/Non-invention); B60R (Subclass/Invention)

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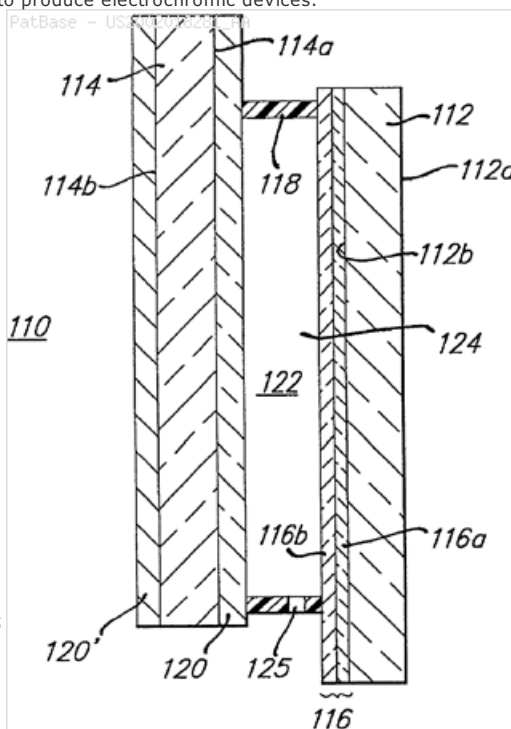
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US: 1/1 204/298.36 204/298.360P 248/205.1 29/428 29/592.1 359/245 359/245P 359/265 359/265P 359/265S 359/266 359/267 359/267P 359/268 359/269 359/270 359/271 359/272 359/273 359/273P 359/273S 359/274 359/275 359/296 359/601 359/602 359/603 359/603S 359/604 359/604P 359/636 359/636S 359/753 359/838 359/838S 359/839 359/839P 359/871 359/871S 359/872 359/872S 359/877 359/883 359/883S 359/900 362/494 362/514 362/516 427/162 427/555 428/141 428/141P 428/213 428/213S

Family:

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Probable Assignee: GENTEX CORP

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Assignee(s): GENTEX CO ; POLL DAVID ; GENTEX CORP600 NORTH CENTENNIAL STREETZEELANDMI49464US ; GENTEX CORP ZEELAND ; GENTEX ZEELAND CORP ; POE G ; LUTEN HENRT A ; BAUMANN KELVIN L ; GENTEX C ; KAR KEVIN B ; MINIKEY DANNY L ; GIRI PUNAM

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FRASHER SCOTT D ; FOURGETTE JEFFREY A ; FORGETTE JEFFREY A ; FISH JR RICHARD T ; DOZEMAN GRAY J ; BUGNO MARK D ; BRUMMEL NELSON F ; BOSTWICK DANIEL J ; NEUMAN GEORGE ; KLOEPPNER LEROY J ; JEFFREY A FORGETTE ; GEORGE A NEUMAN ; EATON DAVID L ; DOZEMAN GARY J ; ZWAAG SCOTT W VANDER ; BRUIZEMAN JEFFREY T ; POLL DAVID ; BRUCE POE G ; TURNER W L ; KAMOLGA D J ; GEORGE NEUMAN ; FOGG J A ; CARTER J W ; BEECHER B L ; BAUER F T ; ARNOLD J W

Inventor(s): ANDERSON JOHN ; ARNOLD JOHN ; BAUER FREDERICK ; BUSSCHER BRADLEY ; CARTER JOHN ; FOGG JEREMY ; ANDERSON JOHN S HOLLAND ; YPMA KENTON ; CAMMENGDA DAVID J ZEELAND ; BUSSCHER BRADLEY L GRAND RAPIDS ; YPMA KENTON J HUDSONVILLE ; TONAR WILLIAM L HOLLAND ; STRAY JOEL A HUDSONVILLE ; POLL DAVID L HOLLAND ; NEUMAN GEORGE A HOLLAND ; MINIKEY DANNY L ; POE G ; STRAY JOEL ; SCOTT W VANDER ZWAAG ; TONAR WILLIAM L BAUER FREDERICK T ARNOLD JOHN W CA ; ANDERSON JOHN SUS ; ARNOLD JOHN W HOLLAND ; BOSTWICK DANIEL ; BAUER FREDERICK T HOLLAND ; BRUMMEL NELSON FUS ; CAMMENGDA DAVID JUS ; FORGETTE JEFFREY AUS ; FOGG JEREMY A HOLLAND ; EATON DAVID ; DOZEMAN GARY JUS ; CARTER JOHN W HOLLAND ; RUMSEY WAYNE ; POE G BRUCEUS ; PERRON LANSSEN MUS ; NEUMAN GEORGE AUS ; NELSON BARRY ; LUTEN HENRT AUS ; KLOEPPNER LEROY ; GUARR THOMAS ; WATSON ALAN ; TURNBULL ROBERT ; TONAR WILLIAM LUS ; THOMAS F GUARR ; TONAR WILLIAM ; PERRON LANSSEN ; LUTEN HENRY ; LEROY J KLOEPPNER ; JOHN W CARTER ; DOZEMAN GARY ; FORGETTE JEFFREY ; DAVID L EATON ; BRUMMEL NELSON ; CAMMENGDA DAVID

Agent(s): MACRAE AND CO; MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB; MUELLER BORE AND PARTNER PATENTANWALTE; BAYLISS GEOFFREY CYRIL; FINNIE PETER JOHN; MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB; CUNDY JACK WILLIAM; UESUGI HIROSHI; OHTSUKA FUMIAKI; SUDA HIROYUKI; KUMAKURA YOSHIO; NISHIJIMA TAKAKI; PRICE HENEVELD COOPER DEWITT AND LITTON LLP GENTEX CORP; BRIAN J REES GENTEX CORP; BROMBERG AND SUNSTEIN LLP; GENTEX C O QUARLES AND BRADY LLP CORP; PRICE HENEVELD COOPER DEWITT AND LITTON LLP; SHULTZ JR JAMES E; JAMES E; QUARLES AND BRADY LLP; YAKOV; SCOTT P; PRICE HENEVELD LLP; BRADLEY D; REISING ETHINGTON PC; SUNSTEIN BRUCE D ET AL; SIDORIN YAKOV

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: Shaped mold and a method of using same to assemble sandwich of a sheet of flexible **interlayer** material with bent **glass** sheets

Abstract: A mold for supporting a flexible sheet of **interlayer** material for assembly against a bent **glass** sheet or between a pair of bent **glass** sheets of matching configuration has a first apertured wall shaped to conform to the shape of the bent **glass**, and a second apertured wall of conforming shape adapted for coupling to a vacuum source to form and hold the flexible sheet of **interlayer** material against the mold in unwrinkled condition. The mold is pivoted to a carriage from a mold loading orientation of convex elevational configuration to a mold unloading orientation of concave elevational configuration. Carriage movement between a mold loading station and an assembly station is correlated to the elevational configuration of the mold in a method of using the mold in assembling said flexible sheet of **interlayer** material against one or more bent **glass** sheets.

Classifications:

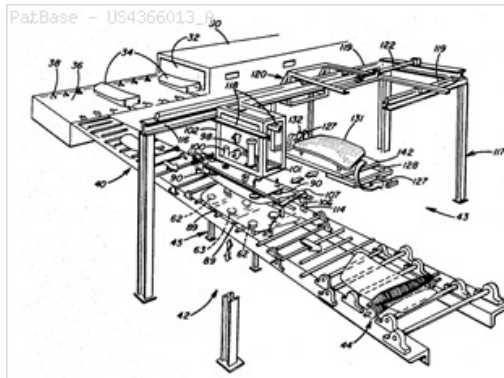
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International (IPC 1-7): B29C1/00 B29C27/18 B29C27/22 B29C3/00 B32B1/00 B32B1/10 B32B17/00 B32B17/04 B32B17/10 B32B31/00 B32B31/04 B32B31/06 B60J1/00 B65B9/00 B65H29/24 B65H39/00 C03B35/14 C03B35/16 C03C27/12 C09J5/06

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Probable Assignee: PPG IND

Assignee(s): (std): PPG IND INC ; PPG INDUSTRIES INC

Assignee(s): SHADLE BARRY L ; VALIMONT JAMES L ; PPG IND OHIO INC ; PPG INDUSTRIES INC ; KELLY JOSEPH D ; PHARES HERSEL L ; PPG IND

Inventor(s): (std): SHADLE BARRY L ; VALIMONT JAMES L ; VALIMONT JAMES LAWRENCE ; VALIMONT J L ; SHADLE BARRY LEROY ; SHADLE BARRY LE ROY ; SHADLE B L ; PHARES HERSHEL LEE ; PHARES HERSHEL L ; PHARES H L ; LEROY SHADLE BARRY ; LAWRENCE VALIMONT JAMES ; KELLY JOSEPH DAVID ; KELLY JOSEPH D ; KELLY J D ; HERSHEL LEE PHARES ; HAAASHIERU RII FUAARESU ; DAVID KELLY JOSEPH ; JIYOSEFU DEBITSUDO KERII ; JIEEMUSU ROORENSU BARIMONTO ; Barii REROI SHIYADORU

Inventor(s): JAMES LAWRENCE VALIMONT ; BARRY LEROY SHADLE ; JOSEPH DAVID KELLY

Agent(s): COLLISON AND CO; GOWLING LAFLEUR HENDERSON LLP

Designated states: BE DE FR GB IT NL SE

Title: APPARATUS FOR BENDING **GLASS** SHEETS

Abstract: A hot **glass** sheet cut to shape for use in the manufacture of a vehicle window is supported in a near-vertical position on its lower edge on a carriage as it is heated and moved between co-operating male and female dies. When between the dies lifting fingers mounted on the bottom of at least one of the dies move beneath the supported lower edge of the sheet, and as the dies close the lifting fingers are raised sufficiently to lift the hot **glass** sheet from the carriage and provide support for the sheet as it is bent.

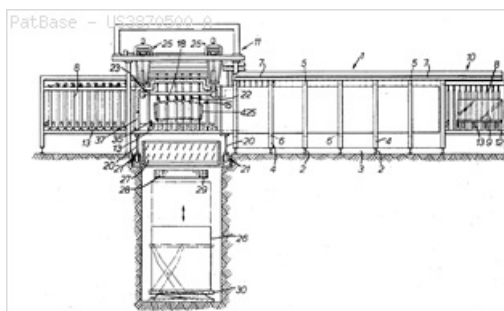
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International (IPC 1-7): B60J1/00 B60J1/02 B65G13/04 B65G49/06 B65H5/06 C03B19/00 C03B23/00 C03B23/02 C03B23/03 C03B23/06 C03B25/00 C03B25/04 C03B27/00 C03B27/02 C03B29/00 C03B29/04 C03B35/00 C03B35/16 C03B5/00 C03C27/12
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European: C03B23/023D C03B23/031B C03B23/03D

US: 65/104 65/106 65/273 65/275 65/289 65/374.14



Family:

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US3880635 A	19750429	US19740450459	19740312
YU194274 A	19820531	YU19740001942	19740711
ZA7404630 A	19750827	ZA19740004630	19740719
ZM11474 A	19760721	ZM19740000114	19740712

Priority:

GB19730034703 19730720 GB19730034704 19730720 GB19740034703 19730720

Probable Assignee: TRIPLEX SAFETY GLASS CO

Assignee(s): (std): TRIPLEX SAFETY GLASS CO ; TRIPLEX SAFETY CLASS COMPANY L ; TRIPLEX SAFETY LTD

Assignee(s): TRIPLEX SAFETY GLASS CO LTD GB ; TRIPLEX SAFETY GLASS COLTD ; TRIPLEX SAFETY GLASE CO LTD ; TRIPLEX SAFETY GLASS CO LTD BIRMINGHAM VER KOENIGREICH ; TRIPLEX SAFETY GLASS COMPANY LIMITED ; TRIPLEX SAFETY GLASS CY LTD GB ; TRIPLEX SAFETY GLASS CY LTD ; TRIPLEX SAFETY GLASS CO LTD LONDON ; TRIPLEX SAFETY GLASS COMPANY LTD ; TRIPLEX SAFETY GLASS COMPANY LIMITED GB ; TRIPLEX SAFETY GLASS COMPANY LIMITED TE LONDEN ; TRIPLEX SAFETY GLASS CO LTD ; TRIPLEX SAFETY GLASS CO LTD BIRMINGHAM VER KOENIG ; TRIPLEX SAFETY GLASS CO LTD BIRMINGHAM GB ; TRIPLEX SAFETY CLASS COMPANY LTD ; JACK HARRY RS ; RICHARDS PETER H ; TIPTON SAFETY GLASS CO ; TRIPLEX SAFETY CLASS CO L

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Inventor(s): H R S JACK ; VERZICHT DES ERFINDERS AUF NENNUNG ; P H RICHARDS ; RICHARDS PETER H GB ; SKELDING KENNETH G GB ; K G SKELDING ; K T HUGHES ; KENNETH EDWARD HAYWARD ; NICHTNENNUNG BEANTRAGT ; PETER HENRY RICHARDS ; JACK HARRY RS ; HARRY ROSS SCARLETT JACK ; HARRY ROSS SCARLETT JACK AND PETER HENRY RICHARDS ; JACK HARRY R S GB ; HUGHES KENNETH T GB

Agent(s): SELIGSOHN GABRIELI AND CO

Title: COATED SUBSTRATES

Abstract: A coated substrate, especially a **glass** substrate, such coated substrate having high photocatalytic activity and low visible light reflection as well as being highly abrasion resistant. Preferably, the coating is a titanium oxide coating, the photolytic activity is greater than $5 \times 10^{-3} \text{ cm}^{-1} \text{ min}^{-1}$, and coating side visible light reflection is 35 percent or lower.

Classifications:

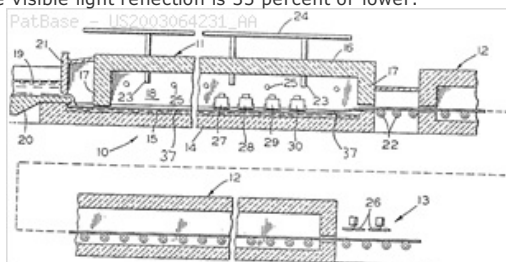
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International (IPC 1-7): B01J21/06 B01J35/02 B32B17/06 B32B9/00 C03C17/23 C03C17/245 C03C17/34 C03C27/06 C03C27/12 C23C16/40

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European: B01J35/00D6 B32B17/10C4 B32B17/10E10 B32B17/10G28 C03C17/245C C03C17/34D2 C23C16/40H L01J21/06T L01J37/02C M03C217/212 M03C217/710 M03C218/152

US: 428/428 428/428P 428/432 428/432P 428/432S 428/689 428/698 428/698S 428/702 428/702S 502/349 502/350 502/350S 65/60.5 65/60.51 65/605 65/605.1 65/99.1 65/99.4 65/991 65/994



Family:

Publication number	Publication date	Application number	Application date
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Priority:

GB19990013315 19990608	EP20000935378 20000601	EP20020009640 20000601
WO2000GB02111 20000601	US20000587970 20000606	US20020144010 20020513
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Probable Assignee: LIBBEY OWENS FORD CO

Assignee(s): (std): HURST SIMON J ; HURST SIMON JAMES ; LIBBEY OWENS FORD CO ; PILKINGTON NORTH AMERICA INC ; MARIA AMMERLAAN JOHANNES ANDRE ; MCCURDY RICHARD JOSEPH ; PILKINGTON NORTH AMERICA ; MARIA JOHANNES A ; MCCURDY RICHARD J ; AMMERLAAN JOHANNES ANDREAS MAR ; PILKINGTON GROUP LTD ; PILKINGTON NORTH AMERICA INC LIBBEY OWENS FORD CO AS ; PILKINGTON PLC

Assignee(s): PILKINGTON PLC LIBBEY OWENS FORD CO ; PILKINGTON PUBLIC LIMITED COMPANY ; PILKINGTON PLC ST HELENS ; PILKINGTON PLC Y LIBBEY OWENS FORD CO ; PILKINGTON GROUP LTD ST HELENS ;

PILKINGTON NORTH AMERICA INC LIBBEY OWENS FORD CO TOLEDO AS ; PILKINGTON GROUP ST
HELENS LTD ; PILKINGTON NORTH AMERICA INC TOLEDO ; AMMERLAAN JOHANNES ANDREAS MARIA ;
PILKINGTON P L C ; LIBBEY OWENS FORD COMPANY ; MARIA AMMERLAAN JOHANNES ANDREAS ;
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Inventor(s): (std): AMERLAN JOHANNES ANDREAS MARIA ; HURST SIMON J ; HURT SIMON JAMES ; MARIA JOHANNES A ;
MCCURDY RICHARD J ; MCURDY RICHARD JOSEPH ; SJ HURST ; SIMON JAMES HURST ; RJ MCCURDY
; RICHARD JOSEPH MCCURDY ; MCCURDY RICHARD JOSEPH ; MCCURDY R J ; MARIA AMMERLAAN
JOHANNES ANDRE ; MAR AMMERLAAN JOHANNES ANDREAS ; JOSEPH MCCURDY RICHARD ; JOHANNES
ANDREAS MARIA AMMERLAAN ; JAMES HURST SIMON ; JAM AMMERLAAN ; HURST SIMON JOMES ;
HURST SIMON JAMES ; HURST S J ; AMMERLANN JOHANNES ANDREAS MAR ; AMMERLAAN JOHANNES
ANDREAS MARIA ; AMMERLAAN JOHANNES ANDREAS MAR ; AMMERLAAN J A M ; HURST SIMON

Inventor(s): S J HURST ; R J MCCURDY ; J A M AMMERLAAN ; MCCURDY RICHARD ; MARIA JOHANNES ANDREAS ;
MARIA JOHANNES ; JOHANNES ANDREAS MARIA AMMERLANN ; MCCURDY RICHARD JOSEPH AURORA ;
MARIA AMMERLAAN JOHANNES ANDREAS ; HURST SIMON JAMES AMMERLAAN JOHANNES ; HURST
SIMON JAMES RUNCORN ; AMMERLAAN JOHANNES

Agent(s): GRIFFITH HACK ; FINLAYSON AND SINGLEHURST ; ALESSANDRI ; HAZZARD ALAN DAVID ; REINHOLD
COHN AND PARTNERS ; SUGIMURA KOSAKU ; MARSHALL AND MELHORN ; MARSHALL AND MELHORN LLC

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES
FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU
LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Title: FLEXIBLE ELECTRICALLY CONDUCTIVE FILM

Abstract: An electrically conductive film contains electrically connected first and second visible light-transmissive metal or metal alloy layers separated by a visible light-transmissive crosslinked polymeric layer. The film can be joined or **laminated** into **glazing** (especially non-planar vehicular safety **glazing**) with reduced likelihood that the metal or metal alloy layers will be damaged or distorted. The film also can transparently shield a device that can cause or is sensitive to electromagnetic interference with reduced likelihood that the metal or metal alloy layers will fracture.

Classifications:

International (IPC 8-9): B05D3/14 B05D5/06 B05D7/24 B32B15/08 B32B17/10 B32B27/36 B32B37/00 B32B37/14 B32B7/10 C03C17/00 C08J5/12 C08J7/04 C09D4/00 C23C14/20 C23C14/56 G02B5/26 G02B5/28 H01B13/00 H01B5/14 H05B3/84

H05B3/86 (Advanced/Invention);

B32B17/10 (Advanced/Non-invention);

B05D3/14 B05D5/06 B05D7/24 B32B15/08 B32B17/06 B32B27/36

B32B37/00 B32B37/14 B32B7/10 C08J5/12 C08J7/00 C09D4/00

C23C14/20 C23C14/56 G02B5/26 G02B5/28 H01B13/00 H01B5/14

H05B3/84 (Core/Invention)

International (IPC 1-7): B05D3/14 B05D5/06 B05D7/24 B32B15/08

B32B17/10 B32B27/36 B32B31/12 B32B9/00 C03C17/00 C08J5/12

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H01B5/14 H05B3/84 H05B3/86

CPC: Y10T156/10 H05B3/86 B32B7/10 B32B17/10036 B32B17/10174

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H05B2203/017 Y10T428/3162 Y10T428/3163 Y10T428/31649

Y10T428/31699

European: B32B17/10C4 B32B17/10E10 B32B17/10G16

B32B17/10G28 B32B17/10L10 B32B27/36 B32B7/10 C23C14/56B

H05B3/86 L32B309/62 L32B309/68 L32B31/00A7A L32B310/14

L32B329/06 L32B38/00B L32B38/00F10 L32B38/00F6 T05B203/017

US: 156/308.2 156/60 156/60P 219/203 296/84.1 359/360 427/162

427/162P 427/165 427/166 428/431 428/431P 428/437 428/442

428/463

PatBase - US2004033369_AA

Patent Application Publication Feb. 19, 2004 Sheet 1 of 9 US 2004/003369 A1

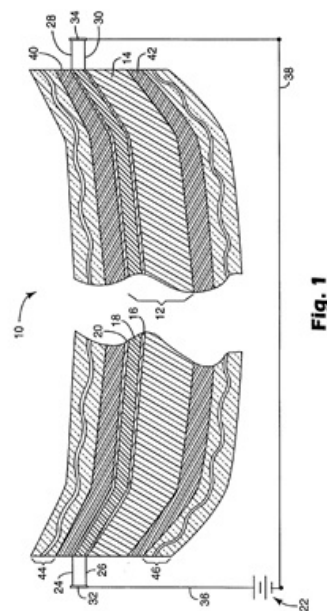


Fig. 1

Family:

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US2008257475 AA	20081023	US20080143511	20080620
US6933051 BB	20050823	US2002022449	20020817
US7393557 BB	20080701	US20050103872	20050412
WO04016560 A2	20040226	WO2003US21887	20030714
WO04016560 A3	20040408	WO2003US21887	20030714
WO04016560 C1	20050407	WO2003US21887	20030714

Priority:

US2002022449 20020817

WO2003US21887 20030714

US20050103872 20050412

US20080143511 20080620

Probable Assignee: 3M CO

Assignee(s): (std): 3M INNOVATION CO LTD ; 3M INNOVATIVE PROPERTIES ; 3M INNOVATIVE PROPERTIES CO ; 3M CO

Assignee(s): 3M INNOVATION CO ; 3M INNOVATIVE PROPERTIES COMPANY ; ANDERSON EDWARD JOHN ; BRIGHT CLARK IVAN ; LYONS CHRISTOPHER STEWART ; FLEMING ROBERT JAMES ; KOSTER BRIAN LEROY ; ZELINSKY MARIA LENNI

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; CHRISTOPHER STEWART LYONS ; BRIAN LEROY KOSTER

Inventor(s): BRIAN L ; BRIAN L KOSTER ; ZELINSKY MARIA ; LYONS CHRISTOPHER ; KOSTER BRIAN ; FLEMING ROBERT ; BRIGHT CLARK ; ANDERSON EDWARD ; MARIA L ; MARIA L ZELINSKY ; ROBERT J ; ROBERT J FLEMING ; CHRISTOPHER S ; CHRISTOPHER S LYONS ; CLARK I ; CLARK I BRIGHT ; EDWARD J ; EDWARD J ANDERSON

Agent(s): VOSSIUS AND PARTNER; 3M INNOVATIVE PROPERTIES COMPANY; 3M INNOVATIVE PROPERTIES CO; STEWART PAMELA L; PAMELA L; FULTON LISA P; LISA P

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

Title: VARIABLE TRANSMISSION WINDOW

Abstract: A variable transmission window includes a first substrate having a first transparent conductor coated surface and a second substrate having a second transparent conductor coated surface. The second substrate is positioned relative to the first substrate with the first and second transparent conductor coated surfaces facing each other. An electrochromic medium is disposed between the first and second substrates whereby the transmission of light through the electrochromic medium is changed when an electrical potential is applied thereto. The electrochromic medium includes a cross-linked film. The window may be one of (i) an aeronautical **glazing** and (ii) a vehicle **glazing**, and/or the window may be a large area **glazing** of an area of at least 99 square inches.

Classifications:**International (IPC 8-9):** G02F1/15 G02F1/153

G02F1/157 (Advanced/Invention);

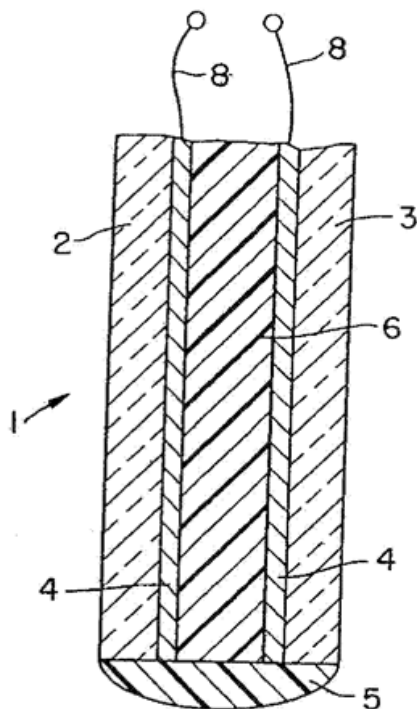
G02F1/155 (Advanced/Non-invention)

CPC: G02F1/1523 G02F1/1533 G02F1/1525 G02F1/155 G02F1/1521

B60R1/089 G02F1/157

US: 359/265 359/275

PatBase - US2013063802_AA

**Family:**

Publication number	Publication date	Application number	Application date
US2013063802 AA	20130314	US20120656969	20121022
US8610992 BB	20131217	US20120656969	20121022

Priority:

US19970918772 19970825	US19970957027 19971024	WO1998US05570 19980326
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Probable Assignee: DONNELLY CORP**Assignee(s):** (std): DONNELLY CORP**Inventor(s):** (std): ZHAO MINGTANG ; VARAPRASAD DESARAJU V ; LYNAM NIAL R ; DORNAN CRAIG A ; ALLEMAND PIERR MARC ; AGRAWAL ANOOP**Agent(s):** GARDNER LINN BURKHART AND FLORY LLP

Title: IMAGING SYSTEM FOR VEHICLE

Abstract: An imaging system for a vehicle includes an imaging device having a field of view exteriorly and forward of the vehicle in its direction of travel, and an image processor operable to process the captured images in accordance with an algorithm. The algorithm comprises a sign recognition routine and a character recognition routine. The image processor processes the image data captured by the imaging device to detect signs in the field of view of the imaging device and applies the sign recognition routine to determine a sign type of the detected sign. The image processor is operable to apply the character recognition routine to the image data to determine information on the detected sign. The image processor applies the character recognition routine to the captured images in response to an output of the sign recognition routine being indicative of the detected sign being a sign type of interest.

Classifications:

International (IPC 8-9): B29C45/14 B60L1/02 B60Q1/00 B60R1/08 G02B27/00 G02B5/08 G02B7/18 G02B7/182 G02F1/15 G06F19/00 G06K9/00 G06K9/20 G08G1/123 H04N7/18 H05B1/00 H05B11/00 H05B3/00 (Advanced/Invention); B60Q1/00 G02B7/182 G05D1/06 H04N7/18 (Advanced/Non-invention); B29C45/14 B60L1/00 G02B5/08 G06K9/00 G06K9/20 H04N7/18 (Core/Invention); B60Q1/00 G05D1/00 H04N7/18 (Core/Non-invention)

International (IPC 1-7): G06K9/00

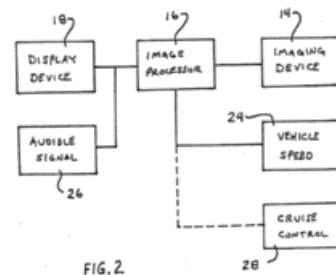
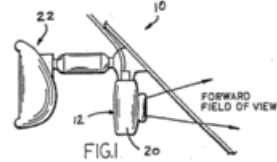
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PatBase - US2005232469_AA

Patent Application Publication Oct. 20, 2005 Sheet 1 of 4 US 2005/0232469 A1

**Family:**

Publication number	Publication date	Application number	Application date
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Probable Assignee: MAGNA ELECTRONICS INC

Assignee(s): (std): BYERS DONALD C ; DONNELLY CORP ; HABIBI HAMID ; KARNER LEE ; LYNAM NIAL R ; SCHOFIELD KENNETH ; MCCABE IAN A

Assignee(s): MAGNA ELECTRONICS INC ; MAGNA MIRRORS OF AMERICA INC ; MAGNA DONNELLY CORP

Inventor(s): (std): SCHOFIELD KENNETH ; MCCABE IAN A ; LYNAM NIAL R ; KARNER LEE ; HABIBI HAMID ; BYERS DONALD C

Inventor(s): BYERS DONALD ; LYNAM NIAL R ; MCCABE IAN

Agent(s): VAN DYKE GARDNER LINN AND BURKHART LLP; VANDYKE GARDNER LINN AND BURKHART LLP

Title: ENHANCED HEAT MIRROR FILMS

Abstract: A heat mirror film containing visible light-transmissive and infrared reflective film comprising a birefringent dielectric multilayer support that reflects at least 50 percent of light in a band at least 100 nm wide in a wavelength region of interest, a metal or metal alloy layer whose thickness is such that the film is visible light-transmissive and its reflection band is broadened, and a crosslinked polymeric layer has improved infrared reflecting properties. The film can be joined or laminated into glazing (especially non-planar vehicular safety glazing) with reduced likelihood that the metal or metal alloy layer will be damaged or distorted.

Classifications:

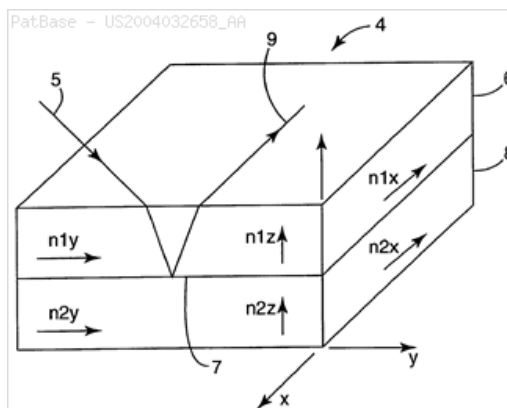
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International (IPC 1-7): B05D5/06 B32B15/08 G02B1/10 G02B5/00 G02B5/08 G02B5/26 G02B5/28

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European: B32B17/10 B32B17/10C B32B17/10C4 B32B17/10E10 B32B17/10G28 B32B27/08 G02B5/28A1

US: 359/489.15 359/489.150P 359/498 359/498P 359/584 359/585 427/162 427/162S



Family:

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Priority:

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Probable Assignee: 3M CO

Assignee(s): (std): 3M CO ; 3M INNOVATIVE PROPERTIES CO ; 3M INNOVATIVE PROPERTIES COMPANY ; THREE M INNOVATIVE PROPERTIES ; THREE M INNOVATIVE PROPERTIES CO

Assignee(s): FLEMING ROBERT JAMES ; 3M INNOVATIVE PROPERTIES CO SAINT PAUL

Inventor(s): (std): FLEMING ROBERT J ; FLEMING ROBERT JAMES ; FLEMING ROBERT ; ROBERT J FLEMING

Inventor(s): ROBERT JAMES FLEMING ; FLEMING ROBERT J SAINT PAUL

Agent(s): VOSSIUS AND PARTNER

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

Title: METHOD FOR PRESSING **LAMINATED GLASS**

Abstract: 824,686. **Glazing.** PITTSBURGH PLATE **GLASS** CO. Dec. 13, 1956 [March 12, 1956], No. 38061/56. Addition to 819,179 [Group VIII]. Drawings to Specification. Class 20(3) [Also in Group VIII] A mounting for a **laminated glass**-plastic assembly comprises a continuous flexible channel member according to the parent Specification having also a second channel suitable for mounting the assembly in a frame, the second channel extending separately of the closable passage and having flanges adapted to enclose a protruding rim of the frame. An additional channel may be provided to receive a trim moulding. In a modification, the second channel is provided in an encompassing strip in a combination with the continuous member, said second channel having flanges adapted to enclose a protruding rim of the frame.

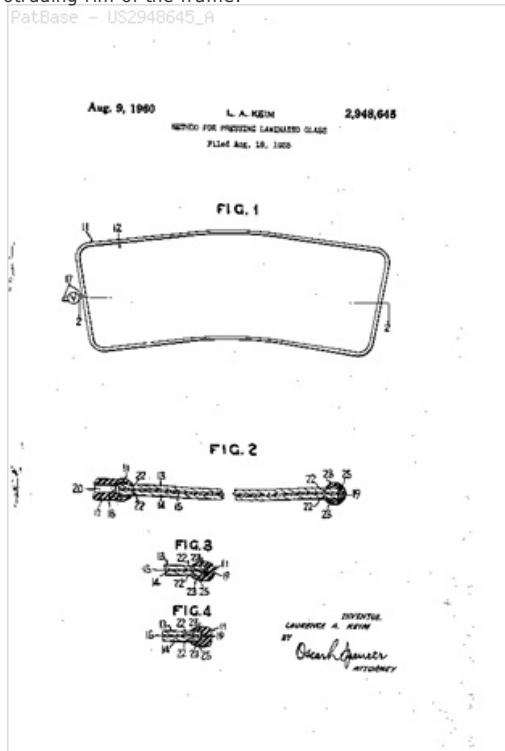
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International (IPC 8-9): B32B17/10 B60J1/02 B60J10/00 B60J10/02 B60R13/04 C03C27/12 (Advanced/Invention); B32B17/06 B60J1/02 B60J10/00 B60J10/02 B60R13/04 C03C27/12 (Core/Invention)

International (IPC 1-7): B32B17/10 B60J1/00 B60J1/02 B60J1/18 B60J10/00 B60J10/02 C03C27/06 C03C27/10 C03C27/12 E06B3/62 **CPC:** B60J10/265 B60J10/30 B60J10/34 B60J10/70 B32B17/10871 B32B17/10036 B32B17/10302 B32B17/10834 B60J1/02 B60R13/04

European: B32B17/10C4 B32B17/10E16B B32B17/10L10B2 B32B17/10L10D B60J1/02 B60J10/00D7B B60J10/00G B60J10/00G2 B60J10/02 B60R13/04

US: 156/104 156/105 156/106 52/204.597 52/482 52/716.5 52/717.02 52/800.14



Family:

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Priority:

US19550529404 19550819 US19550529420 19550819 US19560570971 19560312
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Probable Assignee: PITTSBURGH PLATE GLASS CO

Assignee(s): (std): PITTSBURGH PLATE GLASS CO

Assignee(s): PITTSBURGH PLATE GLASS COMPANY ; PITTSBURGH PLATEGLASS CO

Inventor(s): (std): ENGLEHART OSCAR ; LAURENCE ALBERT KEIM ; OSCAR DALE ENGLEHART ; ALBERT KEIM LAURENCE ; TAKENAKA FRED T ; KEIM LAURENCE ALBERT ; KEIM LAURENCE A ; FRED TETSURO TAKENAKA ; ENGLEHART OSCAR DALE ; ENGLEHART OSCAR D

Inventor(s): OSCAR DALE ENGLEHART AND LAURENCE ALBERT KEIM ; DALE ENGLEHART OSCAR ; TETSURO TAKENAKA FRED

Title: METHOD OF FORMING AN ELECTRONIC DEVICE

Abstract: A method of forming an electronic device using the technique of drop on demand printing to deposit droplets of deposition material, said method comprising depositing a plurality of droplets on a surface to form a patterned electronic device comprising multiple discrete portions.

Classifications:

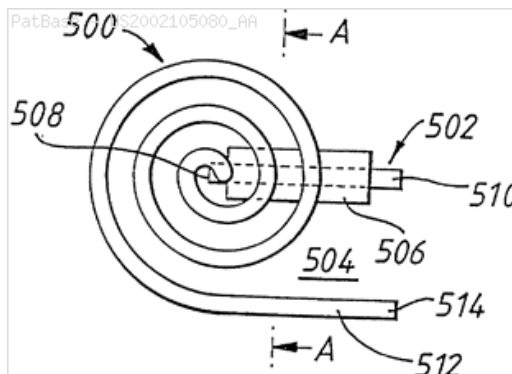
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Family:

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Probable Assignee: PATTERNING TECHNOLOGIES LTD

Assignee(s): (std): PATTERNING TECHNOLOGIES LTD ; SPEAKMAN STUART ; SPEAKMAN STUART PHILIP ; THIN FILM

TECHNOLOGY ; THIN FILM TECHNOLOGY CONSULTAN

Assignee(s): THIN FILM TECHNOLOGY CONSULTANCY LIMITED ; THIN FILM TECHNOLOGY CONSULTANCY LTD ; THIN FILM TECHNOLOGY LTD ; PATTERNING TECHNOLOGIES FUJIFILM HOUSE BOU LTD ; PATTERNING TECHNOLOGIES LIMITED

Inventor(s): (std): SPEAKMAN STUART ; SPEAKMAN STUART PHILIP

Inventor(s): STUART SPEAKMAN ; STUART PHILIP SPEAKMAN

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; FETHERSTONHAUGH AND CO; MILHENCH MARK LORNE; WOLF GREENFIELD AND SACKS PC

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZW