new products bulletin

Bulletin 293, June 1980

bulletin de produits nouveaux

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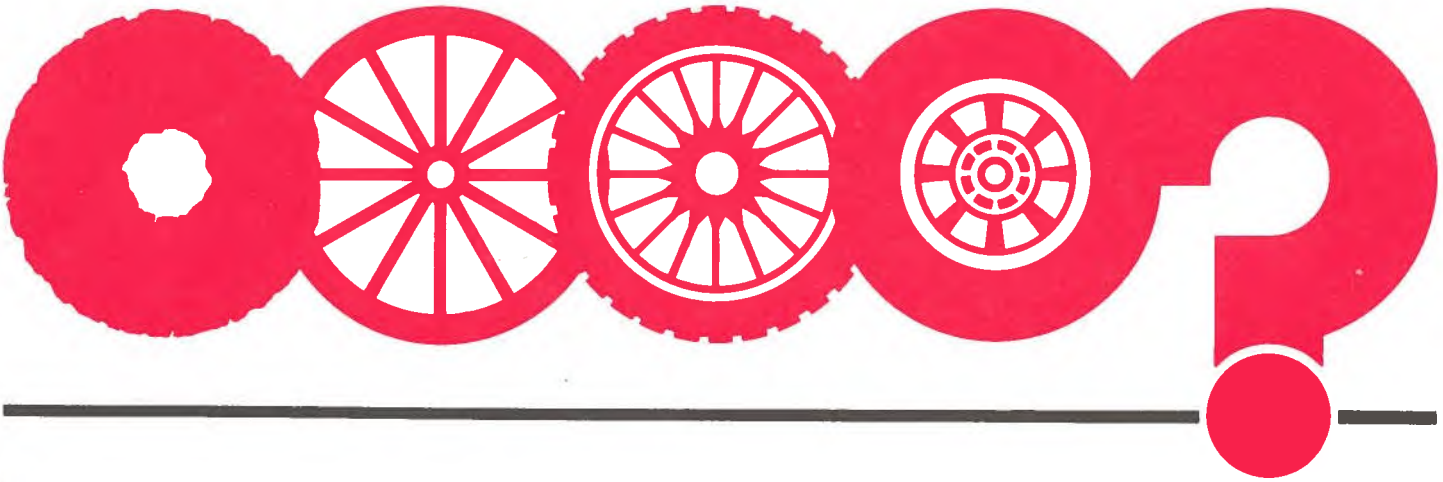


new products bulletin

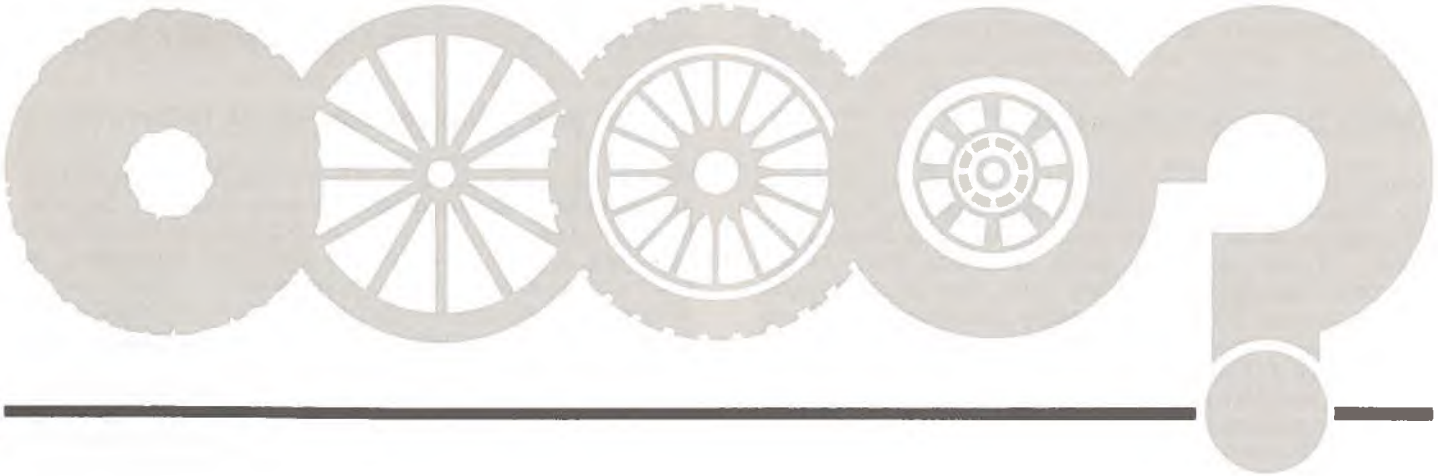
bulletin de produits nouveaux

This monthly bulletin is published to inform Canadian industry of licensing and joint venture opportunities that may be investigated for the purpose of forming manufacturing affiliations. The Department cannot assume any responsibility for claims made or for transactions which ensue from the publication of any items in this bulletin. If you are interested in any of the proposals you should contact the correspondent identified with the item and send a copy of your initial correspondence to the Canadian Government Trade Commissioner responsible for the area at the address indicated, in order that he can provide appropriate assistance or commercial information.

The Licensing Opportunities Section (34/3) of the BUSINESS CENTRE of the Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5 (Telephone: (613) 995-5771) should be advised of any agreements concluded as a result of this publicity.

Publié tous les mois, le présent bulletin a pour objet d'informer l'industrie canadienne des occasions de fabrication sous licence et d'entreprises en participation qu'il est possible d'étudier aux fins de constituer des affiliations manufacturières. Le Ministère ne peut assumer aucune responsabilité à l'égard des réclamations ou transactions découlant de la publication d'articles dans le présent bulletin. Si l'une ou l'autre des propositions vous intéresse, auriez-vous l'obligeance de communiquer avec le correspondant et transmettre copie de votre premier échange de correspondance au délégué commercial du Gouvernement du Canada qui s'occupe de la région en cause, à l'adresse indiquée, afin qu'il puisse vous fournir l'aide ou les renseignements commerciaux pertinents.

Prière d'informer la Section des possibilités de licences (34/3), du CENTRE DES ENTREPRISES, ministère de l'Industrie et du Commerce, Ottawa (Ontario) K1A 0H5 (tél. (613) 995-5771), de toute entente intervenue à la suite de la présente publicité.



Determining the Position of an Opaque Surface/293

A non-contact electro-optical device for determining the position of an opaque surface. It lends itself particularly well to measuring the thickness of an opaque sheet of moving material such as paper, wood, metal or plastic without imposing any mechanical restraint on the sheet. Write: Case 5822, Canadian Patents and Development Limited, 275 Slater Street, Ottawa, Canada K1A 0R3 and send a copy of your initial correspondence to: Licensing Opportunities Section (34/3), Business Centre, Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.

Device for Pattern Recognition (Transvector)/293

A novel device for recognizing patterns such as poorly formed letters which is both simple and efficient. It utilizes a special circuit of summing amplifiers and resistors (transvector) followed by a standard correlator. This device employs parallel processing and its speed is limited only by the time taken for an electrical pulse to travel through it. Write: Case 6789, Canadian Patents and Development Limited, 275 Slater Street, Ottawa, Canada K1A 0R3 and send a copy of your initial correspondence to: Licensing Opportunities Section (34/3), Business Centre, Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.

In-Service Jitter Monitor/293

This jitter-monitor, which does not require a jitter-free reference clock, is designed for permanent installation in a variety of multi-hop digital transmission systems. It may be incorporated at the receive-end of the transmission system as well as at repeaters and should drastically reduce the cost of trouble-shooting the system since it provides continuous warning of jitter in excess of system specifications. Write: Case 6977, Canadian Patents and Development Limited, 275 Slater Street, Ottawa, Canada K1A 0R3 and send a copy of your initial correspondence to: Licensing Opportunities Section (34/3), Business Centre, Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.

Telidon Data Base Software/293

Telidon is an information distribution system developed by the Department of Communications, Canada. It permits information to be retrieved from central data bases on a variety of user terminals using telephone lines, cable, broadcast transmissions, fibre optic lines or broadband transmissions. Telidon will handle graphical as well as alphanumeric data in the form of picture description instructions (PDI's). The Telidon hardware components are presently available off-the-shelf and the Telidon software is now being offered for licensing through Canadian Patents and Development Limited. Write: Case 7128, Canadian Patents and Development Limited, 275 Slater Street,

Détermination de la position d'une surface opaque/293

Dispositif électro-optique permettant de déterminer sans contact la position d'une surface opaque. Convient particulièrement bien à la mesure de l'épaisseur d'une feuille opaque de matière en mouvement comme du papier, du bois, du métal ou du plastique, sans exercer de contrainte mécanique sur la feuille. Écrire: Cas 5822, Société canadienne des brevets et d'exploitation limitée, 275, rue Slater, Ottawa (Canada) K1A 0R3, et faire parvenir une copie de votre correspondance initiale à la Section des possibilités de licences (34/3), Centre des entreprises, Ministère de l'Industrie et du Commerce, Ottawa (Canada) K1A 0H5.

Dispositif permettant de reconnaître les formes (Transvecteur)/293

Nouveau dispositif simple et efficace permettant de reconnaître les formes, par exemple des lettres mal formées. Utilise un circuit spécial de résistances et d'amplificateurs totalisateurs (transvecteur), suivi d'un corrélateur standard. Assure le parallélisme. Vitesse limitée uniquement par le temps de parcours d'une impulsion électrique dans le dispositif. Écrire: Cas 6789, Société canadienne des brevets et d'exploitation limitée, 275, rue Slater, Ottawa (Canada) K1A 0R3, et faire parvenir une copie de votre correspondance initiale à la Section des possibilités de licences (34/3), Centre des entreprises, Ministère de l'Industrie et du Commerce, Ottawa (Canada) K1A 0H5.

Contrôleur d'instabilités/293

Ce contrôleur d'instabilités, qui ne fait pas appel à une horloge de référence exempte d'instabilités, est conçu pour une installation permanente dans différents systèmes de transmission numérique de réflexions successives. Il peut être incorporé à l'extrémité réceptrice du système de transmission ou aux répéteurs, et devrait réduire considérablement le coût de dépannage du système puisqu'il émet un avertissement continu en cas d'instabilités plus fortes que les seuils prévus. Écrire: Cas 6977, Société canadienne des brevets et d'exploitation limitée, 275, rue Slater, Ottawa (Canada) K1A 0R3, et faire parvenir une copie de votre correspondance initiale à la Section des possibilités de licences (34/3), Centre des entreprises, Ministère de l'Industrie et du Commerce, Ottawa (Canada) K1A 0H5.

Logiciel pour la base de données de Telidon/293

Telidon est un système de diffusion de l'information mis au point par le ministère des Communications du Canada. Il permet d'extraire de l'information des bases de données centrales, à partir de différents terminaux utilisateurs, la liaison étant assurée par ligne téléphonique, câble, radiodiffusion, fibres optiques ou transmission sur large bande. Telidon traite les données tant graphiques qu'alpha-numériques sous forme d'instructions de description d'images (PDI). Les éléments du matériel Telidon sont actuellement disponibles dans le commerce, et les droits de licence sur le logiciel sont offerts par la Société canadienne des brevets et d'exploitation Ltée. Écrire: Cas 7128, Société cana-

Ottawa, Canada K1A 0R3 and send a copy of your initial correspondence to: Licensing Opportunities Section (34/3), Business Centre, Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.

Water Treatment Coagulant/Flocculant/293

The Taki Chemical Co., Ltd. of Japan offers patent and know-how licensing rights to a Canadian company for the production of a highly efficient water treatment chemical of which molecular weight is extremely high and which is very effective in treating organic wastewaters and dewatering sludge. It has application in the treatment of industrial wastewaters, municipal sewage and night soil and dewatering of various sludge. Write: TA2-02 (6-07), International Department, The Foundation of Osaka Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan and send a copy of your initial correspondence to Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Water Treatment Equipment/293

The Taki Chemical Co., Ltd. of Japan offers patent and know-how licensing rights to a Canadian company for the production of water and wastewater treatment equipment which is small to medium in size and has great resistance to variations in BOB load. Write: TA2-03 (14-016), International Department, The Foundation of Osaka Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan and send a copy of your initial correspondence to Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Self-Lubricating Coatings/293

The C. Uyemura & Co., Ltd. of Japan offers the licensing rights to a Canadian company for the manufacture and sale of electro-deposited composite coatings of metal and graphite fluoride, polytetrafluoroethylene (PTFE). The compound graphite fluoride and PTFE have excellent properties as a solid lubricant and non-wetting property. The company provides a process for producing a composite film of solid lubricant and metal comprising the steps of dispersing a fine powder of graphite fluoride in a metal plating bath in the presence of a water-soluble surfactant having a fluoride-carbon bond in the molecule. The electro-deposited self-lubricating coatings have a high sliding property with less friction, they can find application in inner walls of cylinders, inner walls of engines, piston rings, bearings and sliding parts of other machines and are reliable in their functions throughout the service life. The electro-deposited coatings by nickel and PTFE provide a good releasable surface for plastic molds. As these coatings have wear-resistant, dry lubricant and non-wetting characteristics, the application for rotating shafts, switches, molds, etc., can be considered. Patented in the United States, England and Germany. Write: U1-3 (6-50), International Department, The Foundation of Osaka

dienne des brevets et d'exploitation limitée, 275, rue Slater, Ottawa (Canada) K1A 0R3, et faire parvenir une copie de votre correspondance initiale à la Section des possibilités de licences (34/3), Centre des entreprises, Ministère de l'Industrie et du Commerce, Ottawa (Canada) K1A 0H5.

Coagulant-floculant pour le traitement de l'eau/293

La Taki Chemical Co. Ltd. du Japon propose les droits de brevet et de licence (savoir-faire) à une compagnie canadienne, pour la fabrication d'un produit chimique très efficace, destiné au traitement de l'eau; de poids moléculaire très élevé, il se révèle extrêmement utile dans le traitement des eaux usées organiques et l'assèchement des boues. De plus, il trouve des applications dans le traitement des eaux usées industrielles, des déchets municipaux et de la vidange, ainsi que de diverses boues. Écrire à: TA2-02 (6-07), International Department, The Foundation of Osaka Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Équipement pour le traitement de l'eau/293

La Taki Chemical Co. Ltd. du Japon propose des droits de brevet et de licence (savoir-faire) à une compagnie canadienne pour la production d'équipement de traitement de l'eau ou des eaux usées; cet équipement est de taille petite ou moyenne et possède une forte résistance aux variations de la DBO. Écrire à: TA2-03 (14-016), International Department, The Foundation of Osaka Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Revêtements autolubrifiants/293

La C. Uyemura & Co. Ltd. du Japon offre d'octroyer sous licence à une société canadienne les droits de fabrication et de vente de revêtements composites obtenus par électrodéposition sur du métal, du fluorure de graphite et du polytétrafluoréthylène. Le composé de fluorure de graphite et le polytétrafluoréthylène sont d'excellents lubrifiants solides, non mouillants. La société fournit un procédé qui permet d'obtenir une pellicule composite constituée de lubrifiant solide et de métal; cette technique comprend les étapes de dispersion d'une fine poudre de fluorure de graphite dans un bain pour électrodéposition en présence d'un agent tensio-actif soluble dans l'eau dont les molécules présentent une liaison fluorure-carbone. Les revêtements autolubrifiants obtenus par électrodéposition sont très glissants et engendrent moins de frottement; ils peuvent donc s'utiliser sur la paroi intérieure des cylindres et des moteurs, sur les segments de piston, sur les coussinets et sur les pièces coulissantes d'autres machines; de plus, ils sont fiables pendant toute leur durée. Les revêtements de nickel et de polytétrafluoréthylène obtenus par électrodéposition constituent une bonne surface amovible dans le cas des moules de plastique. Comme ces revêtements résistent à l'usure, sont des lubrifiants secs et ne

Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan and send a copy of your initial correspondence to Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Winding Technology for Combing/293

Japanese company offers a Canadian manufacturer a know-how license for a top making process of worsted spinning, particularly a method of winding the web into a lap for supplying into the comber. It gives well-regulated laps of larger package and free from licking, by rolling up the web under high pressure by surface drive. It permits proper combing and largely reduces unevenness of thickness in the width direction of web supplied to the comber in comparison with the conventional sliver supply. The size of lap which has been made larger helps labor saving. Capacity: 35 m/min — Thickness of web: 100-400 g/m^2. Two types are available: 1) Width of web: 400 mm; diameter of lap: 1500 mm; weight of lap: 170 kg; lap change: semi-automatic and 2) Diameter of Lap: 450 mm; weight of lap: 30 kg; lap change: full-automatic. Write: FU1-1 (14-33), International Department, The Foundation of Osaka Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan and send a copy of your initial correspondence to Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Sprayed Synthetic Fireproof Mortar/293

Czechoslovakian state licensing organization offers non-exclusive rights to a Canadian company to manufacture and sell fireproof and thermal insulation mortars in Canada and the U.S.A. The PORFIX and TERMOFAS (modified PORFIX), mixtures are dense fibrepastes composed of polymer binders, light fillers and special additives and are dilutable with water. They are sprayed with plastering machines to a thickness of 6-30 mm in one layer without wall furring or any other reinforcement, to provide 1) metals, concrete, products of agglomerated wood and plastics, with anticorrosive coating; 2) thermal insulation of walls. Layers of 6-60 mm increase fire resistance from 15 to 180 minutes depending on the type of construction material. Average thickness of 20-25 mm means fire resistance of 90 minutes. Basic material PROFIX can be modified by adding granular polystyrene. Through this modification its volume weight can be essentially decreased. Thermal conductivity coefficient equals 0,05 ± 0,1 W/mK. For an outdoor application, cement must be added. The volume weight of wet and dry PORFIX is: 1,100 kg/m^3 and 600 Kg/m^3; volume weight for wet and dry THERMOFAS is: 350-400 kg/m^3 and 150-250 kg/m^3. Write: Mr. Jan Volny, Polytechna, P.O. Box 834, Panska 9, 112 45 Praha 1,

sont pas mouillants, ils peuvent s'utiliser sur des arbres tournants, des interrupteurs, des moules, etc. Le procédé est breveté aux États-Unis, en Grande-Bretagne et en Allemagne. Écrire à: U1-3 (6-50), International Department, The Foundation of Osaka Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Procédé de bobinage pour peignage/293

Une compagnie japonaise offre à un fabricant canadien un contrat de connaissances techniques pour un procédé de fabrication de ruban peigné par filature de laine peignée, plus particulièrement pour une méthode de bobinage du voile en nappe, en vue de l'introduction dans la peigneuse. Grâce à ce procédé, les nappes sont régulières, plus larges et exemptes de brisures, étant donné que le voile est enroulé sous haute pression par commande de surface. De plus, le procédé facilite le peignage et réduit l'inégalité d'épaisseur dans la largeur du voile introduit dans la peigneuse, si on le compare à la méthode d'introduction en ruban traditionnelle. La nappe plus large permet d'envisager certaines économies du point de vue du travail et de la main-d'oeuvre. — Capacité: 35 m/min; épaisseur du voile: 100-400 g/m^2. Il existe deux types de nappes: 1) largeur du voile: 400 mm; diamètre de la nappe: 1500 mm; poids de la nappe: 170 kg; changement de la nappe: semi-automatique, et 2) diamètre de la nappe: 450 mm; poids de la nappe: 30 kg; changement de la nappe: automatique. Écrire à: FU1-1 (14-33), International Department, the Foundation of Osaka Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Mortier synthétique ignifuge appliqué par pulvérisation/293

L'organisme national tchécoslovaque d'octroi des licences offre à une entreprise canadienne les droits non exclusifs de fabrication et de vente au Canada et aux États-Unis de mortiers ignifuges et d'isolants. Les mélanges PORFIX et TERMOFAS (PORFIX modifié) sont des pâtes fibreuses épaisses composées de liants polymères, d'une charge minérale légère et d'additifs spéciaux. Ces mélanges peuvent être dilués avec de l'eau. Ils sont appliqués par pulvérisation au moyen de projeteurs d'enduit en une couche de 6 à 30 mm d'épaisseur. Ils ne nécessitent ni des fourrures ni aucune armature. Ces mortiers servent de revêtement anticorrosif pour les métaux, le béton et les produits composés de plastiques et de fibres de bois agglomérées et d'isolation thermique pour les murs. Les couches de 6 à 60 mm d'épaisseur prolongent la durée de résistance au feu de 15 à 180 minutes, selon le type de matériau de construction. Une épaisseur moyenne de 20 à 25 mm assure une résistance au feu de 90 minutes. Le matériau PROFIX de base peut être modifié en ajoutant du polystyrène granulaire. Cette modification diminue considérablement son poids volumique. Le coefficient de conductivité thermique de ces mortiers correspond à 0,05 ± 0,01 W/mK. Pour l'usage à l'extérieur, il faut ajouter du

Czechoslovakia and send a copy of your initial correspondence to: Commercial Division, Canadian Embassy, Mickiewiczova 6, 125 33 Prague 6, Czechoslovakia.

ciment. Le poids volumique du PROFIX à l'état humide et à l'état sec est de 1100 kg/m^3 et de 600 kg/m^3, respectivement. Celui du TERMAFAS à l'état humide et à l'état sec est de 350 à 400 kg/m^3 et de 150 à 250 kg/m^3, respectivement. Écrire à: Mr. Jan Volny, Polytechna, P.O. Box 834, Panska 9, 112 45 Praha 1, Czechoslovakia et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Canadian Embassy, Mickiewiczova 6, 125 33 Prague 6, Czechoslovakia.

Heat Insulating Building Materials Based on Volcanic Glass/293

Czechoslovakian state licensing organization offers a Canadian company the manufacturing, marketing and export rights for the production of KERKOZIT having application in a) lightweight filling for concrete; b) loosely laid vertical insulation; c) ships construction; and, d) as cooling and heating aggregates as insulating filling. Laboratory and semi-plant test results: *Kerkozit*: volume weight: 550-750 kg/m^3; compression strength of grains: 30-44 kg/cm^2. *Kerkozitbeton* — based on Portland cement: volume weight: 1000-1300 kg/m^3; compression strength: 90-300 kg/cm^2. The offer includes the technology of production mixing formula and technical assistance. Write: Mr. Jan Volny, Polytechna, P.O. Box 834, Panska 9, 112 45 Praha 1, Czechoslovakia and send a copy of your initial correspondance to Commercial Division, Canadian Embassy, Mickiewiczova 6, 125 33 Prague 6, Czechoslovakia.

Matériaux de construction isolants à base d'obsidienne/293

L'organisme national tchécoslovaque d'octroi des licences offre à une entreprise canadienne les droits de fabrication, de commercialisation et d'exportation du KERKOZIT qui peut être utilisé a) comme une charge renforçante légère pour le béton, b) comme isolant pour plafonds et planchers, c) pour la construction de navires, et d) pour l'isolation des granulats ayant des propriétés de chauffage et de refroidissement. Résultats d'essais en laboratoire et dans des conditions réelles: *Kerkozit*: poids volumique: 550 - 750 kg/m^3; résistance à la compression des granulats: 44 kg/cm^2. *Kerkozitbeton* — à base de ciment Portland: poids volumique: 1000 - 1300 kg/m^3; résistance à la compression: 90 - 300 kg/cm^2. Cette offre comprend la technologie de fabrication, la formule de composition du mélange et de l'aide technique. Écrire à: Mr. Jan Volny, Polytechna, P.O. Box 834, Panska 9, 112 45 Praha 1, Czechoslovakia et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Canadian Embassy, Mickiewiczova 6, 125 33 Prague 6, Czechoslovakia.

Mortar Mixture for Heat-Insulating Walls/293

Czechoslovakian state licensing organization offers a Canadian company the manufacturing, marketing and export rights for the production of a PERIL KMZ ceramic pearlite mortar mixture for heat-insulating walls made of ceramic pearlite blocks. Characteristics: humidity 40-50%; bulk density 150 kg/m^3; grain size — screen residue 0,315 mm max. 20% 1,0 mm max. 2% 2,0 mm max. 0%; compression strength after drying min. 400 KPa, after firing at 800°C for 4 hrs min. 800 KPa; volume weight after drying 240 kg/m^3, after firing at 800°C for 4 hrs 250 kg/m^3; length alteration by drying max. 5% entirely after firing at cca 800°C for 4 hrs max. 6%; thermal conductivity at 25°C — 0,19 Wm^{-1}k^{-3}, 240°C — 0,13, 370°C — 0,13, 510°C — 0,14. The production was tested under semi-plant and plant conditions. The offer includes the technology of production, mixing formula, technical assistance and specialists for production starting and testing. Write: Mr. Jan Volny, Polytechna, P.O. Box 834, Panska 9, 112 45 Praha 1, Czechoslovakia and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Mickiewiczova 6, 125 33 Prague 6, Czechoslovakia.

Mélange de mortier pour les murs isolants/293

L'organisme national tchécoslovaque d'octroi des licences offre à une entreprise canadienne les droits de fabrication, de commercialisation et d'exportation du mortier de céramique et perlite PERIL KMZ pour les murs isolants réalisés en blocs de céramique et perlite. Caractéristiques: humidité: 40 - 50%; masse volumique apparente: 150 kg/m^3; granulométrie: refus sur tamis de 0,315 mm, 20% max., de 1,0 mm, 2% max., de 2,0 mm, 0% max.; résistance à la compression après séchage: 400 kPa min., après exposition à une température de 800°C pendant 4 h: 800 kPa; poids volumique après séchage: 240 kg/m^3, après exposition à une température de 800°C pendant 4 h: 250 kg/m^3; réduction de longueur après séchage - 5% max., après séchage, et 6% au total après séchage et exposition à une température d'environ 800°C pendant 4 h; conductivité thermique à 25°C: 0,19 Wm^{-1}k^{-3}; à 240°C: 0,13; à 370°C: 0,13; et à 510°C: 0,14. Ce produit a été mis à l'essai dans des conditions simulées et dans des conditions réelles. L'offre comprend la technologie de fabrication, la formule de composition du mélange, de l'aide technique et des spécialistes pour la mise en oeuvre de l'installation de fabrication et pour la mise à l'essai. Écrire à: Mr. Jan Volny, Polytechna, P.O. Box 834, Panska 9, 112 45 Praha 1, Czechoslovakia et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Canadian Embassy, Mickiewiczova 6, 125 33 Prague 6, Czechoslovakia.

Frozen Food Cartons/293

Japanese paper box converter seeks a Canadian company to manufacture and market its dimple carton in Canada initially, with provision in the agreement for rights to export to other countries, such as U.S.A., England, Europe, South America, Korea, South Africa, etc., where patent protection has been granted. The product is a folding carton made from chipboard that has been laminated both sides with a plastic opaque waterproofing film material in which fine cracks have been formed. The fine crack structure is claimed to decrease the time required to freeze the filled package with a consequent saving of energy and improvement of the quality of the contents. It is claimed also that the package eliminates freezing damage and so-called freeze-drying damage. The dimpled surface facilitates release of contents after thawing and no pieces of the box will adhere to the contents. Write: Mr. Eiji Kato, President, Nihon Dimple Carton Co. Limited, 13-2, 1-chome Kojima, Taito-ku, Tokyo, Japan and send a copy of your initial correspondence to Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Cartonnage pour produits surgelés/293

Un façonnier japonais de boîtes de carton est à la recherche d'une entreprise canadienne pour la fabrication et la vente de son carton gaufré, tout d'abord au Canada, puis, aux termes de l'entente, à l'étranger en vertu de droits d'exportation, soit par exemple aux États-Unis, en Grande-Bretagne, en Europe, en Amérique du Sud, en Corée, en Afrique du Sud, etc., où la protection a été conférée par brevet. Le produit est un cartonnage pliant fait de carton gris recouvert sur les deux faces d'une pellicule hydrofuge de plastique opaque comportant de fines craquelures. Il semble que ces dernières réduisent le temps de congélation du contenu, donc une économie d'énergie et une meilleure qualité des denrées. Il semble également que l'emballage élimine les dommages causés par la congélation et la lyophilisation. À la décongélation, la surface gaufrée facilite le vidage de la boîte dont aucune partie n'adhère au contenu. Écrire à: M. Eiji Kato, président, Nihon Dimple Carton Co. Limited, 13-2, 1-chome Kojima, Taito-ku, Tokyo, Japan et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Film Yarns/293

The Koizumi Jute Mills Ltd. of Japan seeks a Canadian company to manufacture whole products of film yarns of polyethylene and polypropylene under a joint venture and know-how licensing arrangement. The production includes: Film yarns (extruding, stretching, winding-up, low-shrinkage yarn, etc.); cloths (including such technics as weaving especially wide cloth such as 4m-5m widths); bags (including laminating, printing, etc.) Write: K04-1 (4-5), International Department, The Foundation of Osaka Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan and send a copy of your initial correspondence to Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Fils pelliculaires/293

La compagnie Koizumi Jute Mills Ltd du Japon offre à une société canadienne son savoir-faire et un contrat d'entreprise en participation pour la fabrication de produits en fils pelliculaires de polyéthylène et de polypropylène. Parmi les produits, on retrouve les fils pelliculaires (extrusion, élasticité, bobinage, faible retrait); les tissus (procédé de tissage sur 4 à 5 m de largeur); les sacs (contre-collage, impression), etc. Écrire à: K04-1 (4-5), International Department, the Foundation of Osaka Science and Technology Center, 1-8-4, Utsubo Hommachi, Nishi-ku, Osaka, Japan et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Metal Integrated Ceilings/293

Dutch scientific research organization offers a Canadian company a know-how license for the manufacture and sale of all kinds of metal integrated ceilings, perforated or non-perforated, including lighting fixtures and air inlet units. The design meets the highest demand for energy saving and air and acoustical requirements. The various types of ceilings can be designed and modified for an attractive and exclusive outlook; components snap together to decrease installation time; are energy saving; have great durability and are almost completely maintenance free. All components are made of galvanized sheet metal or aluminum and finished with baked polyester paints. Test reports regarding acoustical requirements, fire resistance, illumination level, acoustical isolation levels, air capacity, etc., and catalogues in English, German or French are available. Write: LO 9042, Centre for Industrial Services TNO, P.O. Box 94, AB Delft, The Netherlands and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

Faux-plafonds métalliques/293

Un organisme néerlandais de recherche scientifique offre à une entreprise canadienne la licence de fabrication et de vente de toutes sortes de faux-plafonds métalliques, perforés ou pas, comprenant les appareils d'éclairage et les arrivées d'air. Ces faux-plafonds sont conçus pour satisfaire aux exigences les plus sévères, en matière d'économie d'énergie, de ventilation et d'isolation acoustique. Les divers types de plafonds peuvent être conçus et modifiés de manière à être attrayants et originaux. Les composants sont encliquetables, ce qui diminue considérablement le temps d'installation; ils permettent d'économiser de l'énergie; ils ont une grande durabilité et demandent très peu d'entretien. Tous les composants sont constitués de tôle d'acier galvanisée ou d'aluminium et sont finis au moyen de peintures à base de polyester cuites au four. Les rapports d'essai concernant les exigences acoustiques, la résistance au feu, le niveau d'éclairement, les niveaux d'isolation acoustique, le volume d'air, etc., ainsi que les catalogues, sont disponibles en anglais, en français et en allemand. Écrire à: LO 9042, Centre for Industrial Services TNO, P.O. Box 94, AB Delft, The Netherlands et faire

Thermal Shock Resistant Pipe Joint/293

Dutch scientific research organization offers a Canadian company a know-how license to manufacture a pipe joint which is resistant against mechanical and thermal shocks. Developed especially for use in industrial high vacuum apparatus, this is a high quality pipe joint between a thin walled pressure or vacuum pipe and a thick walled vessel of materials which are not weldable. The new joint is resistant to such mechanical shocks as hammering or falling from a great height. Thermal shocks such as repeatedly heating over 100°C or immersing in liquid air or nitrogen has no disadvantageous effects on the vacuum tightness of the joint. The joint has been successfully applied in thousands of cases in the diameter range between 10-20 cm. There is no unwanted stress due to the very high temperatures of the welding operation of the complete joint. Write: LO 9045, Centre for Industrial Services TNO, P.O. Box 94, 2600 AB Delft, The Netherlands and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

Flange Seal/293

Dutch scientific research organization offers know-how and rights under the Canadian patent 1,050,070 to a Canadian company for the licensed production and sale of seals for flanges. The seals are patented in eleven countries and consist of three concentric vertical cylinders of low height and wall thickness connected by horizontal connections. Preferably the horizontal connections have recesses for two rings of elastic material, which are enclosed in the now formed U-shaped rings. The new seal is suitable for sealing as well as for protection against contamination due to inleakage when the medium inside the pipe is under reduced pressure. Due to the backing action of the coupled elastic rings and the narrow slit between the flanges and the vertical cylinders, the sealing qualities are excellent and, in view of the fastening construction, no careful machining of the flanges is necessary. The seals have application in sealing pipes which are to be mounted in a limited space according to close space tolerances. Write: LO 9046, Centre for Industrial Services TNO, P.O. Box 94, 2600 AB Delft, The Netherlands and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

Metal Electrical Installation Systems/293

Dutch scientific research organization offers a Canadian company a non-exclusive manufacturing license and the marketing rights (except in Western Europe) for the production of metal systems for the transportation of electrical cables, including suspensions, all kinds of auxiliary pieces, etc., for cable trays in perforated or non perforated executions, with a width of 70 mm to 1000 mm; cable

parvenir une copie de votre correspondance initiale à: Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

Raccord de tuyau résistant aux chocs thermiques/293

Un organisme néerlandais de recherche scientifique offre à une compagnie canadienne une licence de fabrication d'un raccord de tuyau résistant aux chocs mécaniques et thermiques. Spécialement conçu pour les pompes industrielles à vide poussé, ce raccord de grande qualité relie une conduite sous pression ou sous vide à paroi mince à une structure à parois épaisses qu'il est impossible de souder. Ce nouveau raccord résiste à des chocs mécaniques comme le martelage ou une chute d'une hauteur considérable. De plus, il ne perd pas son étanchéité au vide, même après avoir été chauffé à plusieurs reprises à plus de 100°C, puis refroidi par immersion dans de l'air ou de l'azote liquide. Le raccord de 10 à 20 cm, dans des milliers de cas, a donné toute satisfaction. Il ne subit pas de contraintes indues lorsqu'il est soumis aux températures élevées de soudage. Écrire à: LO 9045, Centre for Industrial Services TNO, P.O. Box 94, 2600 AB Delft, The Netherlands et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

Joint d'étanchéité de brides/293

Un organisme néerlandais de recherche scientifique offre à une compagnie canadienne une licence et les droits de fabrication et de vente de joints d'étanchéité de brides en vertu du brevet canadien 1 050 070. Brevetés dans 11 pays, ces joints se composent de trois cylindres concentriques verticaux, plutôt bas et minces, reliés par des raccords horizontaux. Idéalement, ces derniers sont munis de rainures pouvant recevoir deux anneaux élastiques enfermés dans les bagues en "U". Ce nouveau joint étanche protège de la contamination due à la pénétration de corps étrangers quand la pression du liquide du tuyau est plutôt réduite. Grâce au phénomène de recul des anneaux élastiques accouplés et à l'étroitesse des fentes entre les brides et les cylindres verticaux, l'étanchéité est parfaite; l'usinage des brides est inutile parce que le joint est conçu pour être fixé. Ces joints conviennent particulièrement bien pour assurer l'étanchéité des tuyaux logés dans un espace restreint selon des tolérances serrées. Écrire à: LO 9046, Centre for Industrial Services TNO, P.O. Box 94, 2600 AB Delft, The Netherlands et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

Systèmes métalliques d'installation de câbles électriques/293

L'organisation néerlandaise de recherche scientifique offre à une compagnie canadienne une licence non exclusive de fabrication et les droits de commercialisation (sauf en Europe de l'Ouest) pour la production de systèmes métalliques d'installation de câbles électriques: étagères perforées ou non perforées pour câbles, de 70 à 1000 mm de largeur, échelles pour câbles de 200 à 600 mm de lar-

ladders, with a width of 200 mm up to 600 mm; wall ducts, with a height of 120 mm up to 170 mm; floor ducts in several executions, with a width of 130 mm up to 370 mm; outlet boxes and pedestal units; and multi outlet poles. Due to the fact that most components of these systems can be snapped on instead of fastened with screws, the installation time is relatively short. All products are made of galvanized steel. Write: LO 9041, Centre for Industrial Services TNO, P.O. Box 94, 2600 AB Delft, The Netherlands and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

geur, conduites pour murs de 120 à 170 mm, plusieurs types de conduites pour planchers de 130 à 370 mm de largeur, boîtes et bornes de prises de courant, poteaux à prises multiples, ainsi que matériel de suspension de toutes sortes d'accessoires. Comme la plupart des pièces sont à fixation rapide au lieu d'être vissées, le temps d'installation est relativement court. Toutes les pièces sont en acier galvanisé. Écrire à: LO 9041, Centre for Industrial Services TNO, P.O. Box 94, 2600 AB Delft, The Netherlands et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

Clean-Up Apparatus/293

Dutch scientific research organization offers a Canadian company know-how and technical assistance for the production and sale in agreed territories of laboratory apparatus to automatize open column liquid chromatography. The apparatus has a number of channels, each using one or two disposable columns, which can be switched parallel or in series and which can be fed by different solvents. The eluate of the first column can be led either to the second column (with a different packing) or directly to the fraction collector that acts as an evaporator at the same time. The receiving bottles are vial, normally used in automatic samplers for gas chromatography. The number of channels and collectors is not essential. The prototype has five channels and twenty collectors. It is used wherever open column liquid chromatography is applied, especially where it is necessary to collect different fractions or to apply different elution solvents, or wherever elution volatile solvents must be concentrated, i.e., clean-up of extracts for the gas chromatographic determination of pesticide residues; separation of PCB and organochlorine pesticides; others, for example mentioned in "Florisil Properties Applications Bibliography". Compared with the manual technique the equipment provides: faster and more economic use of working-time; better reproducibility; better blank values, due to reduced chances of accidental contamination; and, less waste of solvents (no cleaning of glassware). Write: LO 3101, Centre for Industrial Services TNO, P.O. Box 94, 2600 AB Delft, The Netherlands and send a copy of your initial correspondence to: Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

Appareil de nettoyage/293

L'organisation néerlandaise de recherche scientifique offre à une compagnie canadienne le savoir-faire et l'aide technique pour la production et la vente, sur des territoires convenus, d'un appareil de laboratoire de chromatographie automatique en phase liquide sur colonnes ouvertes. L'appareil comporte plusieurs voies, chacune utilisant une ou deux colonnes jetables, qui peuvent recevoir différents solvants. L'éluat de la première colonne peut être acheminé soit vers la deuxième colonne (qui contient une garniture différente), soit directement vers le collecteur de fractions qui agit à la fois comme évaporateur. Les bouteilles collectrices sont des flacons normalement utilisés dans les échantillonneurs automatiques pour la chromatographie en phase gazeuse. Les nombres de voies et de collecteurs peuvent varier. Le prototype comporte cinq voies de 20 collecteurs. Il est utilisé chaque fois qu'on fait de la chromatographie en phase liquide sur colonnes ouvertes, notamment lorsqu'il faut recueillir différentes fractions, utiliser différents solvants d'élution ou concentrer des solvants d'élution volatils, c'est-à-dire nettoyer des extraits pour le dosage, par chromatographie en phase gazeuse, de résidus de pesticides, la séparation de PCB et de pesticides organochlorés, et d'autres fins, par exemple celles mentionnées dans *Florisil Properties Applications Bibliography*. Comparativement à la méthode manuelle, l'appareil est plus rapide (utilisation plus rationnelle du temps), présente une plus grande reproductibilité, donne de meilleurs valeurs de blanc à cause de risques réduits de contamination accidentelle et réduit la quantité de solvant usé (pas de verrerie à laver). Écrire à: LO 3101, Centre for Industrial Services TNO, P.O. Box 94, 2600 AB Delft, The Netherlands et faire parvenir une copie de votre correspondance initiale à: Commercial Division, Canadian Embassy, Sophialaan 7, The Hague, Netherlands.

Cabinet Door Alarm Device/293

American inventor offers a Canadian company the manufacturing and marketing rights under U.S. Patent Number 3,895,599 for an anti-theft device for a cabinet having slidable doors or doors that pivot outwardly. Upon the closing of the door, the alarm button is depressed. Upon release of the door pressure, the trigger button mechanism both cocks and strikes an alert bell which always rings at full intensity irregardless of the degree or slowness at which the pressure is released. Write: Mr. Gerard Berkowitz, Suite 503, 448 South Hill Street, Los Angeles, California 90013 and send a copy of your initial correspondence to Cana-

Alarme antivol d'armoire/293

Un inventeur américain offre de céder à une entreprise canadienne les droits de fabrication et de commercialisation (brevet américain nº 3 895 599) d'un dispositif antivol pour armoires à porte coulissante ou ordinaire à ouverture vers l'extérieur. À la fermeture de la porte, un bouton est enfoncé. Lorsque la porte est ouverte, un mécanisme commandé par ce bouton s'arme et percute une cloche d'alarme qui sonne alors à intensité maximale, peu importe que la porte soit ouverte en douceur ou non. Écrire à: Mr. Gerard Berkowitz, Suite 503, 448 South Hill Street, Los Angeles, California 90013 et faire parvenir une copie de

dian Consulate General, 510 West Sixth Street, Los Angeles, California 90014.

votre correspondance initiale au Consulat général du Canada, 510 West Sixth Street, Los Angeles, California 90014.

Coin Operated Meter/293

American inventor offers the Canadian manufacturing and marketing rights for a coin operated meter which has undergone four years of extensive field testing in Minnesota's extreme weather conditions. The meter is used in vending machines for the carwash, laundry and general vending industries; is suitable for use in metropolitan areas most susceptible to crime and vandalism; is cheaper to produce and easier to repair. There are only three moving parts in the meter assembly. The coin box has a plug-in feature which is easily disconnected without special tools for removal and service or replacement. The coin meter can be manufactured to handle different coin denominations and is adaptable to fit the openings of most coin boxes now in use. It can accommodate single, double or triple coin templates (25¢, 35¢ or 75¢) for laundromat or vacuum box applications. The slip clutch design prevents damage of internal parts when the central shaft is force rotated with a wrench, screwdriver or other tool. When excess torque is applied beyond an adjustable amount, the mechanism freely rotates without damaging the knob or the internal parts. Moreover, a detent means prevents rotation of the coin disk and thus prevents engaging the timer. A simple adjustment to the actuator box permits adjusting the time accumulator to almost any variation without either rewiring or modifying the timer or installing a new unit. The entire unit can be made of heavy gauge metal or stainless steel. Write: Spencer Brand, Craig, Ward, Clarke & Ford, Inc., 2507 N Florida Street, Arlington, Virginia 22207 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

Monnayeur pour machines automatiques/293

Un inventeur américain offre au marché canadien les droits de fabrication et de commercialisation d'un monnayeur pour machines automatiques qui a été soumis à des essais intensifs d'une durée de quatre ans dans les conditions atmosphériques extrêmes du Minnesota. Ce monnayeur a été conçu pour les machines automatiques de lave-auto et de laverie, ainsi que pour les distributeurs automatiques ordinaires; il convient à merveille aux machines utilisées dans les zones urbaines les plus exposées au crime et au vandalisme; il coûte moins cher et est plus facile à réparer que les anciens modèles. L'ensemble ne comporte que trois pièces mobiles. Le monnayeur est enfichable: il est facile à débrancher de la cassette à monnaie sans outils spéciaux pour fins d'entretien et de remplacement. Il peut être fabriqué en vue de différentes pièces de monnaie et s'adapte aux ouvertures de la plupart des cassettes existantes. Il accepte un gabarit de monnaie simple, double ou triple (25, 35 ou 75 cents), ce qui permet son utilisation dans les machines de laverie et dans les aspirateurs de lave-auto. L'embrayage à friction protège les pièces internes lorsqu'on fait tourner avec force l'arbre central au moyen d'une clé, d'un tournevis ou d'un autre outil. Lorsque l'arbre est soumis à un couple supérieur à un couple préréglé, le mécanisme tourne librement sans que les pièces internes ni le bouton ne soient endommagés. De plus, un organe à cliquet empêche la rotation du disque à monnaie et, par le fait même, le déclenchement de la minuterie. Un simple réglage du mécanisme de déclenchement permet d'obtenir une gamme presque infinie de durées sans qu'il ne soit nécessaire de recâbler, de modifier ou de remplacer la minuterie. L'ensemble peut être fabriqué en métal de forte épaisseur ou en acier inoxydable. Écrire à: Spencer Brand, Craig, Ward, Clarke & Ford, Inc., 2507 N. Florida Street, Arlington, Virginia 22207 et faire parvenir une copie de votre correspondance initiale à: Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

Résumés of the following Canadian Patents and United States Patent applications available for licensing are published in the language of application, English or French.

Des résumés des brevets canadiens cijoints et des demandes de brevets américains pour l'octroi de licences sont publiés dans la langue de la demande de brevet, en anglais ou en français.

Patent 1,074,978

Method for Converting UF_5 to UF_4 in a Molten Fluorite Salt/293

Conversion d'UF_5 en UF_4 dans un fluorure en fusion/293

The reduction of UF_5 to UF_4 in a molten fluoride salt by sparging with hydrogen is catalyzed by metallic platinum. The reaction is also catalyzed by platinum alloyed with gold reaction equipment. Write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545, U.S.A.

Patent 1,074,994

Land Leveler and Growser Assembly/293

Machine à ameublir et niveler la terre/293

A frame carries a leveler blade assembly at the rear end thereof which is supported by a pair of wheels extending rearwardly from the blade assembly. The wheels are pivoted to the blade assembly and a fluid operator extends between the blade assembly and the wheels to raise and lower the blade assembly relative to the ground. A growser assembly is pivoted to the frame forwardly of the blade assembly and can be raised and lowered by a further fluid operator, relative to the frame so that the depth of penetration of the growser points can be selected. The frame is adapted to be hitched to a source of power such as a tractor which also supplies the necessary fluid pressure for the fluid operators. Write: Douglas M. McCaig, Box 305, Kenaston, Saskatchewan S0G 2N0

Patent 1,075,013

Recovery of Cesium and Palladium from Nuclear Reactor Fuel Processing Waste/293

Récupération du césium et du palladium contenus dans les déchets du combustible d'un réacteur nucléaire/293

A method of recovering cesium and palladium values from nuclear reactor fission product waste solution involves contacting the solution with a source of chloride ions and oxidizing palladium ions present in the solution to precipitate cesium and palladium as Cs_2PdC1_6. Write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545, U.S.A.

Patent 1,075,138

Anti-Skid Wheel Attachment Device/293

Fixation antidérapage pour roues/293

A wheel attachment device adapted to provide anti-skidding of a traction wheel of a vehicle and which is characterized by a simple and sturdy construction, and a pair of separate clamping devices easy to put in place on the wheel, which are compactly stacked one on the other for stowage such as in the trunk of a car, and which are adjustably slidable relative to each other. The anti-skid wheel attachment device comprises the pair of separate clamping devices with each a pair of laterally spaced-apart bars which form at one end a tire clamping portion and at the other end a connection portion. The connection portion of one clamping device slidably overlaps the other, a locking lever adjustably slides the clamping devices toward each other and a single catch holds the locking lever in operatively locking position and connects the two clamping devices. Write: Ovila Chabot, 78, rue du Collège, Pont-Rouge (Québec) G0A 2X0

Patent 1,075,152

Fungicide/293

Fongicide/293

A fungicide, especially for the dressing of cereal seeds, which contains: methylbenzimidazole-2-ylcarbamate and 1-[ß-(allyloxy)-2,4-dichlorophenethyl]imidazole, phenylcarbamoyl-1,4-oxatine or 1,2-di-(3-methoxycarbonyl-2) or meth-

ylbenzimidazole-2-ylcarbamate or 1-[ß-(allyloxy)-2,4-dichlorophenethyl]imidazole and at least two compounds selected from 2-pyridinethiol-1-oxide, zinc dimethyldithiocarbamate, 2,3-dihydro-6-methyl-5-phenylcarbamoyl-1,4-oxatine, 1,2-di-(3-methoxycarbonyl-2-thioureido)benzene, and the salts of the same. Write: Kemira Oy, Malminkatu 30, 00100 Helsinki 10, Finland

Patent 1,075,207

Multiple Saddle Rack/293

Ratelier à selles/293

The invention provides a saddle rack adapted to carry a plurality of saddles in spaced vertical relation, in such a manner that each saddle may be moved while supported upon the rack from a stored position, to a readily accessible position, or vice-versa. Write: Roy A. Reti, Box 673, Taber, Alberta T0K 2G0

Patent 1,075,279

Assemblage continu d'articles de correspondance postale/293

Continuous Collating of Mailing Pieces/293

Assemblage continu d'articles de correspondance postale avec documents incorporés. Pour chaque article, le document incorporé est constitué par un feuillet comportant un talon de tête et une partie détachable ou par une liasse de tels feuillets, non nécessairement de mêmes dimensions, réunis par leurs talons et munis éventuellement de moyens de report sélectif d'un feuillet à l'autre, ou encore, par une liasse composée d'éléments hétérogènes tels que feuillets, imprimés pliés à plis croisés ou non, enveloppe retour, fascicules, cartes plastiques ou autres reliés entre eux par des talons détachables respectifs ménagés ou rapportés en tête desdits éléments. Chaque document incorporé est rapporté sur un panneau respectif d'une bande continue de base par collage du talon de tête disposé parallèlement à deux lignes transversales d'affaiblissement qui délimitent le panneau considéré pour le pliage en paravent de la dite bande continue, cette dernière étant munie d'un moyen permettant son entraînement dans une machine imprimante, étant aménagée pour constituer les enveloppes des articles de correspondance de pliage de chacun des panneaux après séparation de ces derniers et collage ou par assemblage par collage avec une autre bande continue dite de couverture et comportant pour chaque panneau au moins une ligne de déchirure permettant l'ouverture de chacune des enveloppes ainsi constituées. Écrire: Hervé et Fils S.A., 90, boulevard de la Villette, 75019 Paris, France

Patent 1,075,335

Printed Circuit Board Connector/293

Connecteur de plaquette de circuits imprimés/293

An electrical connector for mounting a daughter board is shown having two rows of aligned contacts which may be pre-assembled in an insulator housing upon a special tool prior to insertion into aligned apertures in a mother board. The contacts are each provided with outwardly facing shouldered tabs which engage shouldered tabs on the inner surface of the bottom side walls of the housing. The lower portions of the housing side walls are flexible to permit the disengagement of the shoulders and removal of the housing. The side walls are joined by webs which create contact-receiving modules therebetween. Each module is free of obstructions above the upper surface of the shouldered contact tab to permit removal and replacement of the contact without removing the housing. Write: Litton Systems, Inc., 360 North Crescent Drive, Beverly Hills, California 90210, U.S.A.

Patent 1,075,361

Transmission de données, notamment avec modulation DELTA/293

Data Transmission, Particularly with Delta Modulation/293

Dispositif de transmission de données, dans lequel, selon l'invention, on code les données de façon à obtenir un signal bivalent cadencé physiquement intégrable; ce signal bivalent, considéré comme formé de bits élémentaires à une cadence plus élevée, est traité dans un démodulateur DELTA comme si ces bits élémentaires représentaient numériquement un signal analogique ayant subi une modulation DELTA. Les données sont émises sous la forme du signal analogique délivré par ce démodulateur. À la réception, le signal analogique reçu est appliqué à un modulateur DELTA qui fonctionne de préférence en surcharge en pente et qui fournit un train de bits reproduisant le signal bivalent de l'émission et permettant, après décodage, de retrouver les données. Écrire: Compagnie Industrielle des Télécommunications Cit-Alcatel S.A., 12, rue de la Baume, 75008 Paris, France

Patent 1,075,477

Internal Combustion Turbine Engine/293

Turbomoteur à combustion interne/293

An internal combustion engine comprises a casing and a rotor rotatably mounted in the casing with a plurality of blades formed in the surface thereof. A power shaft is connected to the rotor and extends out of the casing. A plurality of circumferentially spaced nozzles in the casing are in line with the rotor blades and extend tangentially in a common direction towards the rotor. A combustion chamber has an outlet port in communication with the nozzles. There are exhaust ports in the casing between and aligned with the nozzles. The combustion chamber has an apparatus for supplying an explosive fuel mixture to the combustion chamber through the fuel inlet port thereof, a spark plug for firing the explosive mixture therein and a mechanism for supplying gas under pressure to the nozzles to start the rotor turning in the casing. The mechanism to start the rotor turning comprises a piston in the chamber normally urged towards the inlet port. The outlet port in the chamber is closed by the piston when the latter is in its normal position. The expanding gases of the fired charge force the piston to uncover the outlet port to permit gases to travel to the nozzles to start the rotor turning. There is a locking mechanism for sewing the piston in a lower position, uncovering the outlet port, when the engine has started. Write: Rudolph Turna, 602 Keefer Street, Vancouver, B.C. V6A 1Y4

Patent 1,075,648

Ski Carrier Mount for Vehicles/293

Support à skis pour véhicules/293

A support member mounted on a base member for swinging movement away therefrom with locking means for releasably securing these members together. A vertical support is connected to the support member and extends upwardly therefrom. The support member has means for retaining ends of at least one pair of skis in a substantially vertical position, and these skis are secured in the position by securing means carried by the support near the upper end thereof. When the locking means is released, the support member can swing away from the base member to shift the skis out of the way when the base member is secured to the rear bumper of a motor vehicle. Write: Mr. David W.S. Davies, 410-668 Lakeshore Drive, Penticton, B.C. V2A 1B9

Patent 1,075,852

Vacuum System for Swimming Pools/293

Aspirateur pour piscines/293

A method of finishing a pool bottom with plastic or rubber tiles which are pitched in the ground. The upper surface of the tiles is deeply impressed with geometrical designs and cramped channels which makes a vacuum of the underliner air and allows a permanent vacuum system to be created. Thus, whenever it is necessary, the liner is sucked to the pool bottom by higher pressures than the normal water pressure of the pool, and the liner maintains its shape firmly when the pool is empty for changing the water, repairing or cleaning the liner, or removing impurities from the pool bottom. Write: Spiridon Constantinescu, 192 Hughson St. North, Apt. 1701, Hamilton, Ontario L8L 7Z9.

Patent 1,075,859

Process for Recovering Chemicals from the Waste Liquors of Sulfate Cellulose Digestion and the Waste Waters of Bleaching/293

Méthode de récupération des produits chimiques dans les liqueurs épuisées en digestion de la cellulose au sulfate et dans les eaux de blanchiment/293

A process wherein a melt from a soda-ash roaster, mainly containing sodium sulfide and sodium carbonate, but also sodium chloride, is dissolved and clarified to produce green liquor containing sodium carbonate, sodium sulfide and sodium chloride is disclosed. The sodium carbonate and the sodium sulfide, which contains most of the sodium chloride, are separated from each other, at least part of the sodium chloride being separated by evaporation crystallization from the sodium sulfide in solution, at least part of the sodium carbonate being causticized into sodium hydroxide, and the sodium hydroxide and sodium sulfide in solutions being mixed together in a ratio suitable to form a digestion solution with a desired sulfide content. Write: A. Ahlström Osakeyhtiö, Noormarkku, Finland

Patent 1,075,976

Equipment for the Propulsion of a Person by the Force of Wind, Especially for Skiers/293

Agrès de propulsion éolienne, surtout pour skieurs/293

A sail/parachute type device for the propulsion of a person, particularly a skier, by wind. The device includes harness worn by the person, securing the sail to the person's body. Control line extend from both sides of the sail toward the harness to facilitate control of the sail during the use thereof. Write: Dieter Strasilla, Tränkestrasse 38, D-7800 Freiburg IBDR, Germany

Patent 1,076,055

Remote Control Bifurcated Typewriter Keyboard (Universal Input Matrix Switch)/293

Machine à écrire à clavier, divisé et télécommandé/293

A new design of typewriter in which the keyboard is divided into two components, and which are adjustable movable away from the remainder of the typewriters so that they may be positioned on either sides of papers placed directly in front of a typist, and from which the typist is copying text to be typed, each divided keyboard being operated by one of the typist's hands and the typewriter including any one of various methods to magnify the text that is typed upon a paper so that the typist, some distance away from the typewriter clearly sees the same as typed, without straining the typist's eyes. Write: Warren Felton, c/o George Spector, 3615 Woolworth Building, New York, N.Y. 10007, U.S.A.

Patent 1,076,069

Undercarrier for Snow Shovel/293

Train de roues pour pelle à neige/293

The present invention provides an apparatus for converting a materials handling device having a handle and material-receiving body to a multi-purpose wheeled materials handling apparatus which comprises: lateral support; axial support; a pair of axles and wheels mounted on said lateral support in spaced apart relation; means for mounting said lateral support beneath the body of said materials handling device; and means, including tension, for mounting an axial support beneath the body of the materials handling device. Write: Harmen Smedes, 43 Ontario Street, Georgetown, Ontario L7G 3K8

Patent 1,076,157

Safety Ski Binding/293

Fixation de sûreté pour skis/293

Safety ski bindings include a boot retaining clip for engaging a ski boot at the heel and/or toe thereof. A toggle linkage system is operably connected to the boot retaining clip and is movable between a locked position for forcing the retaining clip against the boot to retain the boot on the ski, and an unlocked position for disengaging the retaining clip from the boot to permit the ski boot to separate from the ski. An actuated member is movable to unlock the linkage system to permit the linkage system to move into its unlocked position for releasing the retaining clip from the ski boot when the ski binding is displaced a certain distance relative to the ski in either one or both of two directions which are perpendicular to each other. Preloaded biasing means resist the displacement of the ski binding relative to the ski in one of the two directions, and a different preloaded biasing means resists the displacement of the binding relative to the ski in the other direction. Write: Hans de Groot, 16 Dorpstraat, 5971 CC-Grubbenvorst, Netherlands.

Patent 1,076,264

Self-Healing Thermocouple/293

Thermocouple auto-régulateur/293

A device for continuously monitoring the internal surface temperature of a refractory lining in a metallurgical furnace. The device comprises an outer sheath, a pair of dissimilar, metallic wires within the outer sheath and a powdered oxide material closely packed within the sheath and surrounding both wires. Each wire is separately insulated by a sleeving of a refractory material having a melting point higher than the normal working temperature of the furnace at the surface of the lining. The oxide material used as a packing between the outer sheath and the wires is electrically conductive at elevated temperatures and has also a melting point higher than the temperature normally encountered at the surface of the lining. Both the insulating refractory material and conductive oxide material, when exposed to the aforesaid normal working temperature, react with each other to form a conducting bridge between the dissimilar wires at the surface of the lining, which bridge is operative to provide a signal related to the internal surface temperature of the lining. This reaction requires a temperature substantially equivalent to that normally encountered at the surface of the lining; thus, there is no chance that it will occur at an appreciable distance therefrom, so resulting in a conducting bridge distant from the temperature to be measured, which would give spurious temperature readings. Write: Sidbec-Dosco Ltée, 507 Place d'Armes, Montréal, Québec H2Y 2W3.

Patent 1,076,361

Process for the Production of Synthesis Gas/293

Procédé de production de gaz de synthèse/293

A process starting from a hydrocarbon feedstock, and aiming to produce a synthesis gas suitable either for methanol synthesis or for other applications requiring a low H2/CO ratio. In this process, the feedstock is first desul-

furized if necessary, then divided into two fractions; a first fraction undergoes a primary steam reforming at high pressure and moderate temperature; the gas effluent from said primary steam reforming, as well as the second fraction of the feedstock, subsequently undergo jointly a secondary reforming by reaction with an oxygen containing gas in a reactor operating under essentially adiabatic conditions. The synthesis gas obtained as effluent from said secondary reforming, has a composition adjustable at will in a wide range, and therefore can be made as close as necessary to the stoechiometric composition required for methanol synthesis, or has a low H2/CO ratio for other applications, and this synthesis gas is available at high pressure, and can therefore feed directly, without compression, the synthesis loops downstream. The process of the present invention is particularly suitable for methanol production on a very large scale. Write: David L. Banquy, 39 rue Saint-Placide, 75006 Paris, France

Patent 1,076,367

Process for the Treatment of Complex Lead-Zinc Concentrates/293

Traitement de concentrés complexes de plomb-zinc/293

Sulfide concentrates containing metals such as lead, zinc, copper and silver are treated to selectively recover these metals in high yields in a process wherein the concentrate is sequentially leached or extracted with sulfuric acid in the presence of oxygen; lime in the presence of sulfide ion; and ferric chloride. The leach solutions resulting from each extraction may then be treated to recover metals in their elemental state. The process does not produce sulfur oxides. Write: Texasgulf Canada Ltd., P.O. Box 175, Suite 5000, Commerce Court, Toronto, Ontario M5L 1E7

Patent 1,076,397

Wear-Resistant Shaped Magnetic Article and Process for Making the same/293

Articles magnétiques façonnés, résistant à l'usure, et méthode de fabrication/293

Shaped magnetic articles made from powder material are provided containing about 70 to 85% nickel, more than 10% iron, one or more of 0 to 5% chromium, 0 to 6% molybdenum, 0 to 6% copper, 0 to 2% manganese, 0 to 1% titanium and 0 to 1% niobium, containing also about 0.1 to 2.0% of a refractory metal oxide, and having a unique combination of magnetic and physical properties. A process for making the shaped magnetic articles from metal powder and refractory oxide is also disclosed by which the metal and refractory oxide powders are blended, sintered and worked to provide substantially homogeneous articles having at least 99% theoretical density. Write: Carpenter Technology Corporation, 101 West Bern Street, Reading, Pennsylvania, 19603, U.S.A.

Patent 1,076,498

Stacking Containers/293

Contenants gerbables/293

This invention relates to stacking containers of the kind formed from plastics material and of substantially rectangular form in plan view with an open top, a flat base, side and rear walls extending substantially perpendicular to said base, and a forwardly and upwardly inclined front wall. Write: Barton Handling Systems Limited, Mount Pleasant, Bilston, Staffordshire, WV14 9JR, England, U.K.

Patent 1,076,530

Anti-Milking Stamp Vending Mechanism/293

Distributeur de timbres inviolable/293

A stamp dispensing mechanism has a cylindrical feed wheel, with axially-parallel rows of projections, rotatably mounted on a front portion of a vertical support plate that is constructed to rotatably support a roll of stamps on its rear portion. A Geneva star wheel, rotatably mounted on the plate, is operatively connected to the feed wheel for its step movement with the star wheel. A Geneva driver assembly, rotatably mounted on the plate, has a driver pin on an arm rotated by a motor also mounted on the plate. During one rotation of the arm, the pin moves into and out of a slot of the star wheel for its step movement. An arcuate part of the arm is in a recess in the periphery of a tooth of the star wheel, when the pin is not in the slot, to lock that wheel. The rear portion of the top and bottom walls of a horizontal opening of an enclosure, mounted on the plate forwardly of the feed wheel, provides a rearwardly facing surface, with arcuate grooves in which the forward chordal section of the feed wheel extends with its projections in the grooves. An arcuate guide with arcuate grooves is pivotally mounted at one end on the plate and lockable at the other end to overlie the feed wheel with its projections in those grooves. Write: Gard, Inc. 7449 N. Natchez Avenue, Niles, Illinois, U.S.A.

Patent 1,076,673

Connecteur pour essai d'une installation électrique/293

Connector for Testing Electrical Equipment/293

Connecteur pour essai d'une installation électrique au moyen d'une boîte d'essai venant s'appliquer contre une boîte de contacts caractérisée en ce que la boîte d'essai porte des fiches et des doigts-poussoirs et la boîte de contacts des douilles et des contacts à cavaliers mobiles et en ce que des distances différentes entre éléments coopérants des deux boîtes permettent un échelonnement des commutations. L'invention s'applique notamment à des installations de protection. Écrire: Delle-Alsthom S.A., 130 rue Léon-Blum, 69611 Villeurbanne, France

Patent 1,076,704

Dispositif de décodage d'un message en code dit de Miller/293

Device for Decoding Miller Coded Messages/293

Dispositif de décodage d'un message résultant du codage, selon le code dit de Miller, d'informations binaires cadencées à une fréquence F, comportant un détecteur de transitions, un premier moyen commandé par le signal de sortie d'une horloge locale à la fréquence F pour ne laisser passer que les impulsions de transition de phases identiques, un second moyen pour élargir à la durée $\frac{1}{2 \cdot F}$ les impulsions que laisse passer ledit premier moyen, une boucle à verrouillage de phase de l'horloge locale comportant un oscillateur commandable en tension et commandée par le signal de sortie dudit second moyen, et une bascule pour échantillonner le signal de sortie du second moyen sous la commande du signal délivré par l'horloge locale. Écrire: Compagnie Industrielle des Télécommunications Cit-Alcatel, 12, rue de la Baume, 75008 Paris, France

Patent 1,076,724

Dispositif pour l'émission d'un signal basse fréquence de tension élevée par l'intermédiaire d'une liaison à courants porteurs/293

High Voltage Low Frequency Signal Transmitter Using a Carrier Current Link/293

Ce dispositif est en deux parties: une partie émission et une partie réception disposées de part et d'autre de la liaison à courants porteurs. La partie émission permet de moduler par tout ou rien, au double de la fréquence de ladite signalisation, une des porteuses utilisées dans la liaison à courants porteurs. La partie réception permet de détecter la modulation de porteuse par tout ou rien et de l'utiliser pour commuter alternativement deux tensions de signes opposés délivrées par un mutateur haute fréquence piloté éventuellement par un sous multiple de l'une des porteuses utilisées dans la liaison à courants porteurs. Écrire: Compagnie Industrielle des Télécommunications Cit-Alcatel, 12, rue de la Baume, 75008 Paris, France

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PAT-APPL-6-053 475

Control of Parasitic Mites/293

Lutte contre les acariens parasites/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed June 29, 1979, by the Department of Agriculture. The invention relates to the control of scabies mites and other parasitic mites and more specifically to the control of these parasites with certain straight and branched-chain amines and amides. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-056 652

Melting Icebergs to Produce Fresh Water and Mechanical Energy/293

Fusion d'icebergs pour l'obtention d'eau et d'énergie mécanique/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed July 11, 1979, by the Department of Agriculture. Fresh water and mechanical energy are obtained from melting of icebergs. Warm surface seawater is contacted with a fluid, which is vaporized. The resulting vapor is used to generate mechanical energy and then is condensed by contacting it with cold melt water from the iceberg. The fluid is regenèrated with a concomitant elevation in the temperature of the melt water. The warmer melt water is cycled to the body of the iceberg to facilitate its melting and produce additional cold melt water, which is apportioned as fresh water and water cycled to condense the aforesaid vapor. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-083 694

Method of Applying Herbicide/293

Méthode d'application d'herbicides/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 11, 1979, by the Department of Agriculture. This invention relates to and has among its objects the provision of novel methods for applying herbicides to soil. The herbicide and crop seed are simultaneously introduced into soil in close proximity to one another. In a preferred embodiment of the invention, the crop seed is treated with herbicide and then is sown according to conventional techniques. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-065 472

Repressed Amplifier for Mode Locked Oscillator/293

Amplificateur à compression pour oscillateur à verrouillage de mode/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 10, 1979, by the Department of the Air Force. The invention comprehends a non-linear amplifier circuit which together with a multimode oscillator provides a

stable comb spectrum generator or alternatively, a stable rf pulse generator. The non-linear amplifier circuit includes a transistor amplifier with the supply voltage reduced to a critical range, typically about 4 V. The circuit parameters in conjunction with the transistor, are selected such that the average input threshold level, above which an output response occurs, increases with increasing pulse amplitude. The circuit is designed so that the time constant for the threshold level exceeds the pulse repetition period. It is also designed so that the value of small signal gain of the repressed amplifier allows the oscillator to be self-starting under all conditions. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-065 678

Mode Filter Apparatus/293

Filtre de mode/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 10, 1979, by the Department of the Air Force. This document discloses a mode filter apparatus for preventing unwanted modes in a multi-moded structure utilizing a radial plurality of resonant slots on the bottom of the filter cavity. The top of the filter cavity includes a variable height center section to provide mode selectivity in cooperation with the resonant slots. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-065 679

Method and Apparatus for the Analysis of Semi-conductors/293

Méthode et appareil d'analyse des semi-conducteurs/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 10, 1979, by the Department of the Air Force. Described is a method for obtaining, for analyzation, the current induced in the insulating regions of a MOS semiconductor device, when irradiated by high energy electrons in a scanning electronic microscope; the steps include blanking the electron beam, allowing current in the substrate to dissipate, after a selected delay detecting the desired induced current and analyzing it for any number of desired purposes. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-070 383

Parallel Multi-Electrode Spark Gap Switch/293

Interrupteur-éclateur à électrodes multiples et parallèles/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 28, 1979, by the Department of the Air Force. A spark gap switching device for high peak currents includes a pair of main electrodes with protruding, opposing sub-electrodes, surrounded by high permeability cores typically of ferrite material. Small air gaps separate the sub-electrodes. The switch is activated by an over voltage or. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-077 058

Power Supply Sequencing Apparatus/293

Dispositif de commutation simultanée d'alimentation/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 19, 1979, by the Department of the Air Force. This patent application covers a power supply sequencing apparatus utilizing a pair of MOS-FET devices to simultaneously apply or remove the positive and negative power supply sources to an electronic unit. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-930 968

Fluidic Element with substantially Zero Null Off-Set/293

Elément fluidique à décalage à zéro quasi nul/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 4, 1978, by the Department of the Army. A fluidic element, such as a laminar proportional amplifier or laminar jet rate sensor, whose null off-set is reduced to substantially zero. A plurality of substantially identical thin laminate plates are stacked between a pair of cover plates. Each of the laminate plates has a passage formed therethrough which is formed by fine blanking that is characterized by formation of a die roll projecting from one side of the plate. A separator plate is positioned between a like number of laminate plates so that the die rolls of each plate on one side of the separator plate face in the opposite direction to that of the die rolls of each of the laminate plates positioned on the other side of the separator plate. The laminate plates and separator plates are all in fluid communication with at least one of the cover plates via aligned supply, control and output conduits. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-953 292

Null Balancing for Fluidic Sensors and Amplifiers/293

Équilibrage du zéro de capteurs et d'amplificateurs fluidiques/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 20, 1978, by the Department of the Army. A trim circuit for compensating for null offset of the jet stream in a fluidic transducer, such as an amplifier or jet deflection sensor, includes a flow bias control circuit and a supply sensitive difference flow control circuit. The flow bias control circuit supplies fluid pressure to a pair of symetrically disposed control channels at the input end of the transducer. This fluid pressure tends to decrease the amount of null offset of the jet stream from a central axis of the transducer which intersects a pair of symetrically disposed output channels. The supply sensitive difference flow control circuit removes the null offset remaining after correction by the flow bias control circuit. The supply sensitive difference flow control circuit may be disposed in one of the later stages of a cascaded fluidic amplifier chain or at the control inputs of a single stage transducer or amplifier. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-954 264

Method and Apparatus for Examining Structures Using Stimulated Acoustic Emission/293

Méthode et appareil d'inspection de structures par émission acoustique stimulée/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 24, 1978, by the Department of the Army. A vibrator is held in contact with a structure undergoing testing, such as an airplane wing. Vibrations are distributed through the structure and structural defects such as fissures will respond by emitting an acoustical signal. The acoustic signal may occur over a wide frequency range. A pick-up having a crystal transducer also makes contact with the surface of the structure to detect acoustic emissions. The crystal has a wide band response capable of detecting structural defect acoustic emissions. The pick-up has electrical leads connected thereto so that the acoustic emissions are converted to electrical signals which may be recorded or viewed on an oscilloscope. Movement of the pick-up across the surface of the structure will help determine the location of the structural defect. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-963 719

Flueric Notch Filter Temperature or Density Sensor/293

Capteur de température fluidique à filtre à bande étroite/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed November 27, 1978, by the Department of the Army. The temperature sensors shown utilize a constant frequency fluidic oscillator to excite resonance tubes, whose frequency response is a function of temperature. The outputs of these sensors control a fluidic amplifier, whose output is rectified and filtered to produce a D.C. fluid signal which is a function of the sensed temperature. Dif-

ferent embodiments utilize resonance tubes excited in phase or 180 deg. out of phase to sense the difference between two temperatures or to provide increased sensitivity. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-963 720

Non-Contact Flueric Temperature Sensing Method and Apparatus/293

Méthode et appareil fluidique de détection de température sans contact/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed November 27, 1978, by the Department of the Army. This document discloses a flueric nozzle-baffle combination for remotely measuring the surface temperature of either a stationary or moving object. The flueric nozzle opens to a sensing head which is preferably parallel to and opposed from the baffle surface of the object whose temperature is being measured. The back pressure of the fluid flowing through the nozzle is a function of the resistance to flow between the sensing head and the baffle which, in turn, is a function of temperature. If the distance between the sensing head and the baffle surface can be maintained constant, or can be measured by an auxiliary proximity sensor, the temperature may be computed as a linear function of sensed back pressure. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-003 179

Coaxial Terminal Protection Device with Disposable Cartridge/293

Dispositif de protection de bornes coaxiales à cartouche jetable/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed January 15, 1979, by the Department of the Army. Protective electronic circuitry is disclosed using coaxial connector technology and incorporating a disposable cartridge containing an electronic circuit for protecting communication equipment having coaxial inputs. The present invention relates to protective devices for communication equipment, and more particularly to protective devices utilizing disposable cartridges within coaxial connectors for such communication equipment. High energy electromagnetic pulses, as exist in a nuclear detonation environment, for example, or elsewhere, may damage communication equipment if permitted to penetrate such equipment. In order to protect the equipment, including transceivers, for example, from such pulses, various protective devices are available. 'Spikeguard suppressors' are available from Fisher Custom Communications, Box 581, Manhattan Beach, California, 90266, for example. Low capacitance protective circuitry for suppression of fast rise-time transients is disclosed by O. Melville Clark, of General Semiconductor Industries, Tempe, Arizona, in a paper delivered at the 1975 Electromagnetic Compatibility Symposium. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-008 627

Fluidic Valve/293

Valve fluidique/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed February 1, 1979, by the Department of the Army. A fluidic valve which includes a supply nozzle for discharging a fluid power stream, and a pair of outlet channels for receiving the power stream. A rigid member is disposed inside the power nozzle so that it splits the power stream evenly and fluid exists via the two outlet channels with equal pressures. A shaft upon which the rigid member is mounted is responsive to an external input signal for causing the rigid member to turn so that fluid exists via the two outlet channels with a proportional pressure differential output signal being produced across the outlet channels. A centering spring returns the rigid member to its null position when no external input signal is applied to the shaft. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-014 503

Temperature-Compensated Laminar Proportional Amplifier/293

Amplificateur proportionnel laminaire à compensation thermique/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed February 23, 1979, by the Department of the Army. A temperature-compensated laminar proportional amplifier having an interaction chamber laterally extended into a

plurality of vented recesses and a power nozzle for issuing fluid into the interaction chamber. A linear resistor is fluidically coupled between the fluid input of the power nozzle and the fluid outputs of the plurality of vented recesses for bypassing fluid around the power nozzle. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-019 031

Solid-Medium Coherent Optical Processor/293

Processeur optique cohérent à milieu solide/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed March 9, 1979, by the Department of the Army. A coherent optical processor device comprised of a monolithic mass of transparent optical material. The device is built up of a plurality of modules, each having a curved reflective surface for performing a Fourier transform operation and a V-shaped reflective surface, for reflecting the beam and directing it to the next module. Plates or masks for changing the amplitude and/or phase of the beam may be inserted in air gaps between contiguous modules. The device provides absolute path length constancy, is not vulnerable to the adverse effects of dust, and minimizes the multiple reflections ordinarily produced at air-glass interfaces. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-019 032

Complex Spatial Modulator/293

Modulateur spatial complexe/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed March 9, 1979, by the Department of the Army. An apparatus for effecting independent spatial amplitude and phase modulation of a light beam. Two birefringent crystal modulation means such as PROM's (Pockel's Readout Optical Modulator) are arranged so that the first modulation means spatially modulates the amplitude of the beam in accordance with an input image applied to the first modulation means while the second modulation means spatially modulates the phase of the beam in accordance with an input image which is applied to the second modulation means. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-024 234

Multislot Bicone Antenna/293

Antenne biconique multifentes/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed March 26, 1979, by the Department of the Army. A compact multi-cone antenna is disclosed wherein a quarter wavelength cone is utilized at each slot of a slotted ring antenna. The cones are selected to be quarter wavelength in order to provide an impedance transformation for better impedance matching with free space. The individual cones are chosen to have different characteristic impedances in order to provide the antenna with a sharp disc-like radiation pattern. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-868 634

Valve System Incorporating Single Failure Protection Logic/293

Ensemble de soupages avec dispositif logique de protection en cas de panne d'un élément/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed January 11, 1978, by the Department of Energy. Disclosed is a valve system incorporating single failure protective logic. The system consists of a valve combination or composite valve which allows actuation or de-actuation of a device such as a hydraulic cylinder or other mechanism, integral with or separate from the valve assembly, by means of three independent input signals combined in a function commonly known as two-out-of-three logic. Using the input signals as independent and redundant actuation/de-actuation signals a single signal failure, or failure of the corresponding valve or valve set, will neither prevent the desired action, nor cause the undesired action of the mechanism. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-871 919

Sintered Rare Earth — Iron Laves Phase Magnetostrictive Alloy Product and Preparation thereof/293

Alliage terre rare-fer de laves magnétostrictif fritté, et préparation/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed January 24, 1978, by the Department of Energy. A sintered rare earth-iron Laves phase magnetostrictive alloy product is characterized by a grain oriented morphology. The grain oriented morphology is obtained by magnetically aligning powder particles of the magnetostrictive alloy prior to sintering. Specifically disclosed are grain oriented sintered compacts of Tb/sub x/Dy/sub 1-x/Fe sub 2 and their method of preparation. The present sintered products have enhanced magnetostrictive properties. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-880 678

Structure for Ceramic MHD Components/293

Structure de composants céramiques MHD/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed February 23, 1978, by the Department of Energy. An improved structure for ceramic components such as electrodes or insulators intended for use in an MHD generator channel consists of an appropriate refractory ceramic material containing from about 3 to 15 volume percent porosity which is present as imperforate walled cells evenly distributed through the component, the surface of the component being essentially free of perforate walled cells. The porosity improves thermal stability of the components while the imperforate surface prevents or inhibits penetration of the surface of the structure by the alkali metal seed and combustion products in the MHD fluid. One surface of the component may be provided with a thin layer containing high porosity perforate walled cells to permit improved attachment of the component to the MHD channel. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-880 919

Method for Homogenizing Alloys Susceptible to the Formation of Carbide Stringers and Alloys Prepared Thereby/293

Méthode d'homogénéisation d'alliages sensibles à la formation de veinules de carbures et préparation de ces alliages/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed February 24, 1978, by the Department of Energy. A novel fabrication procedure prevents or eliminates the reprecipitation of segregated metal carbides such as stringers in Ti-modified Hastelloy N and stainless steels to provide a novel alloy having carbides uniformly dispersed throughout the matrix. The fabrication procedure is applicable to other alloys prone to the formation of carbide stringers. The process comprises first annealing the alloy at a temperature above the single phase temperature for sufficient time to completely dissolve carbides and then annealing the single phase alloy for an additional time to prevent the formation of carbide stringers upon subsequent aging or thermomechanical treatment. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-904 676

Rim for Rotary Inertial Energy Storage Device and Method/293

Description et méthode de fabrication d'un volant d'inertie formé de cercles concentriques/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed May 10, 1978, by the Department of Energy. The invention is directed to an improved rim or a high-performance rotary inertial energy storage device (flywheel). The improved rim is fabricated from resin impregnated filamentary material which is circumferentially wound in a side-by-side relationship to form a plurality of discretely and sequentially formed concentric layers of filamentary material that are bound together in a resin matrix. The improved rim is provided by prestressing the filamentary material in each successive layer to a prescribed tension loading in accordance with a predetermined schedule during the winding thereof and then curing the resin in each layer prior to forming the next layer for providing a

prestress distribution within the rim to effect a self-equilibrating compressive prestress within the windings which counterbalances the transverse or radial tensile stresses generated during rotation of the rim for inhibiting deleterious delamination problems. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-906 308

Secondary Hardening Steel Having Improved Combination of Hardness and Toughness and Method of Preparation/293

Acier trempant secondaire de dureté et de résistance améliorées et méthode de préparation/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed May 15, 1978, by the Department of Energy. The secondary hardening alloy steel composition consists essentially of about 0.25 to 0.5% carbon, about 0.5 to 1.0% manganese, about 1.5 to 3.0% nickel, about 0 to 1.0% chromium, about 1.75 to 2.5% molybdenum, about 0 to 0.4% vanadium, and an additive selected from about 1 to 3% aluminum and a combination of at least about 1% aluminum and at least about 1% silicon for a combined Al + Si content of about 2 to 4%, the balance being iron and impurity elements. The present steel composition has the following characteristics: it exhibits a flat tempering response, it is hardenable upon tempering to a Rockwell C hardness of at least 50, and it has an improved combination of hardness vs. toughness properties after tempering in the secondary hardening range. A method of preparation is also described. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-906 820

Reflecting Film Reflector and Method of Making the Same,/293

Réflecteur à pellicule réfléchissante et méthode de fabrication/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed May 17, 1978, by the Department of Energy. A reflector of the reflecting film type is disclosed which may be used in a heliostatic system for concentrating solar energy comprising a reflecting film bonded to an appropriate rigid substrate in such a way that specularity of a very high order is achieved. A method of bonding the reflecting film to the substrate is also disclosed and comprises the steps of initially adhering the film to a smooth, clean flat rigid surface with a non-bonding liquid between the rigid surface and film, and then bonding the substrate and film. The non-bonding liquid has a molecular adhesion greater than any stresses due to handling or curing of the bonding agent which is applied between the film and the opposing surface of the rigid substrate. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-908 031

Enhancement of Laser Pulse Contrast Ratios Via Transient Response of Narrow Band Resonant Absorbers/293

Amélioration du contraste des impulsions laser grâce à la réponse transitoire d'absorbeurs résonants à bande étroite/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed May 22, 1978, by the Department of Energy. A narrow band resonant absorber, placed in the transmission path of a laser for increasing the pulse-to-background intensity ratio in short pulse laser systems, is disclosed. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-909 864

Ideal Light Concentrators with Reflector Gaps/293

Concentrateurs de lumière idéaux avec intervalles réflecteurs/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed May 26, 1978, by the Department of Energy. A cylindrical or trough-like radiant energy concentration and collection device is provided. The device includes an energy

absorber, a glazing enveloping the absorber and a reflective wall. The ideal contour of the reflective wall is determined with reference to a virtual absorber and not the actual absorber cross section. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-911 248

Pulse Circuit for Gas Discharge Laser/293 **Circuit d'impulsions pour laser à gaz/293**

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed May 31, 1978, by the Department of Energy. The invention discloses an apparatus and method, using a unique pulse circuit for a known gas discharge laser apparatus, to provide an electric field for preconditioning the gas below gas breakdown and thereafter to place a maximum voltage across the gas which maximum voltage is higher than that previously available before the breakdown voltage of that gas laser medium, thereby providing greatly increased pumping of the laser. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-912 784

Adjustable Expandable Cryogenic Piston and Ring/293 **Piston et segment expansibles réglables pour compresseur cryogénique/293**

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed June 5, 1978, by the Department of Energy. The operation of a reciprocating expansion engine for cryogenic refrigeration is improved by changing the pistons and rings so that the piston can be operated from outside the engine to vary the groove in which the piston ring is located. This causes the ring, which is of a flexible material, to be squeezed so that its contact with the wall is subject to external control. This control may be made manually or it may be made automatically in response to instruments that sense the amount of blow-by of the cryogenic fluid and adjust for an optimum blow-by. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-915 419

Ceramic Component for Electrodes/293 **Elément d'électrode en céramique/293**

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed June 14, 1978, by the Department of Energy. A ceramic component suitable for preparing MHD generator electrodes consists of HfO sub 2 and sufficient Tb sub 4 O sub 7 to stabilize at least 60 volume percent of the HfO sub 2 into the cubic structure. The ceramic component may also contain a small amount of PrO sub 2, Yb sub 2 O sub 3 or a mixture of both to improve stability and electronic conductivity of the electrode. The component is highly resistant to corrosion by molten potassium seed and molten coal slag in the MHD fluid and exhibits both ionic and electronic conductivity. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-916 614

Corrosion Monitoring Apparatus/293 **Contrôleur de corrosion/293**

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed June 19, 1978, by the Department of Energy. Disclosed is a corrosion monitoring device in an aqueous system which includes a formed crevice and monitoring the corrosion of the surfaces forming the crevice by the use of an a-c electrical signal. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-913 634

Differentially-charged and Sequentially-Switched Square-Wave Pulse Forming Network/293

Réseau conformateur d'impulsions carrées à commutation séquentielle et à charge différentielle/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed June 8, 1978, by the Department of Energy. A pulse forming network for delivering a high-energy square-wave pulse to a load, includes a series of inductive-capacitive sections wherein the capacitors are differentially charged higher further from the load. Each charged capacitor is isolated from adjacent sections and the load by means of a normally open switch at the output of each section. The switch between the load and the closest section to the load is closed to begin discharge of the capacitor in that section into the load. During discharge of each capacitor, the voltage thereacross falls to a predetermined potential with respect to the potential across the capacitor in the next adjacent section further from the load. When this potential is reached, it is used to close the switch in the adjacent section further from the load and thereby apply the charge in that section to the load through the adjacent section toward the load. Each successive section further from the load is sequentially switched in this manner to continuously and evenly supply energy to the load over the period of the pulse, with the differentially charged capacitors providing higher potentials away from the load to compensate for the voltage drop across the resistance of each inductor. This arrangement is low in cost and yet provides a high-energy pulse in an acceptable square-wave form. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-918 618

Carbonaceous Fuel Combustion with Improved Desulfurisation/293

Sulfuration améliorée pour la combustion de combustibles charbonneux/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed June 23, 1978, by the Department of Energy. Lime utilization for sulfurous oxides adsorption in fluidized combustion of carbonaceous fuels is improved by impregnation of porous lime particulates with iron oxide. The impregnation is achieved by spraying an aqueous solution of mixed iron sulfate and sulfite on the limestone before transfer to the fluidized bed combustor, whereby the iron compounds react with the limestone substrate to form iron oxide at the limestone surface. The iron oxide present in the spent limestone is found to catalyze the regeneration rate of the spent limestone in a reducing environment. Thus both the calcium and iron components may be recycled. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-923 753

Post Pulse Shutter for Laser Amplifier/293

Obturateur post-impulsion pour amplificateur laser/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed July 11, 1978, by the Department of Energy. An apparatus and a method are described for quickly closing off the return path for an amplified laser pulse at the output of an amplifier so as to prevent damage to amplifiers and other optical components appearing earlier in the chain by the return of an amplified pulse. The apparatus consists of a fast retropulse or post pulse shutter to suppress target reflection and/or beam return. This is accomplished by either quickly placing a solid across the light transmitting aperture of a component in the chain, such as a spatial filter pinhole, or generating and directing a plasma with sufficiently high density across the aperture, so as to, in effect, close the aperture to the returning amplified energy pulse. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-927 237

Method for Forming or Bonding a Liner/293

Méthode de formation ou de liaison d'une enveloppe/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed July 24, 1978, by the Department of Energy. A process and means for forming or bonding a liner to a shell or element is presented wherein the liner is filled with or im-

mersed in water and a portion of the water is frozen. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-927 442

Linear Motor Drive System for Continous-Path Closed-Loop Position Control of an Object/293

Mécanisme d'entraînement à moteur linéaire permettant la commande continue en boucle fermée du positionnement d'un objet/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed July 24, 1978, by the Department of Energy. A precision numerical controlled servo-positioning system is provided for continuous closed-loop position control of a machine slide or platform driven by a linear-induction motor. The system utilizes filtered velocity feedback to provide system stability required to operate with a system gain of 100 inches/minute/0.001 inch of following error. The filtered velocity feedback signal is derived from the position output signals of a laser interferometer utilized to monitor the movement of the slide. Air-bearing slides mounted to a stable support are utilized to minimize friction and small irregularities in the slideway which would tend to introduce positioning errors. A microprocessor is programmed to read command and feedback information and converts this information into the system following error signal. This error osignal is summed with the negative filtered velocity feedback signal at the input of a servo amplifier whose output serves as the drive power signal to the linear motor position control coil. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-928 026

Process for Recovering Actinide Values/293

Procédé de récupération des actinides/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed July 25, 1978, by the Department of Energy. This invention related to a process for recovery actinide values. It related to a process for treating waste carbonate solutions which had been used to scrub actinides and other values and organic radiolytic and hydrolytic degradation products from neutral organo-phosphorus compounds which had been used as extractants in nuclear fuel reprocessing cycles in order to recover the actinide values. It was found that by extracting the radiolytic and hydrolytic degradation products away from the scrub solution, it became relatively easy to recover the actinide values from the waste solution for further processing or storage. Thus the sodium carbonate scrub waste solution was made acidic with mineral acid to form a feed solution. The feed solution was then contacted with a water immiscible highly polar organic extractant which selectively contracted the radiolytic and hydrolytic degradation products away from the feed solution while the actinide values remain in the feed solution, and separated feed solution from the organic extractant. The actinide values were readily recoverable by evaporating the water from the solution for processing or shortage or the solution may be recycled back into the high-level waste process stream. 1 figure, 2 tables. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-929 144

Method of Foaming a Liquid Metal/293

Méthode de moussage d'un métal liquide/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed July 28, 1978, by the Department of Energy. A method for promoting the formation of a foam and for improving bubble retention and foam lifetimes in liquid metal NaK or sodium used to generate power in two-phase liquid metal MHD generators is described. In a two-phase liquid metal MHD generator, a compressed, hot, inert gas is used as the thermodynamic working fluid to electrically drive a conductive liquid metal such as NaK, sodium or tin through the generator channel. The gas and liquid are mixed together just as the mixture enters the generator channel so that the expansion of the gas drives the conductive liquid across the magnetic field, generating electrical power. The two phases are then separated and returned to the mixer through different loops. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-930 616

Compensated Pulsed Alternator/293

Alternateur pulsé compensé/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 3, 1978, by the Department of Energy. This invention relates to an electromechanical energy converter with inertial energy storage. The device, a single phase, two or multi-pole alternator with stationary field coils, and a rotating armature is provided. The rotor itself may be of laminated steel for slower pulses or for faster pulses should be nonmagnetic and electrically nonconductive in order to allow rapid penetration of the field as the armature coil rotates. The armature coil comprises a plurality of power generating conductors mounted on the rotor. The alternator may also include a stationary or counterrotating compensating coil to increase the output, voltage thereof and to reduce the internal impedance of the alternator at the moment of peak output. As the machine voltage rises sinusoidally, an external trigger switch is adapted to be closed at the appropriate time to create the desired output current from said alternator to an external load circuit, and as the output current passes through zero a self-commutating effect is provided to allow the switch to disconnect the generator from the external circuit. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-930 782

Frost-Proof and Moisture-Proof Building Foundation/293

Fondation de bâtiment à l'épreuve du gel et de l'humidité/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 3, 1978, by the Department of Energy. An improved concrete building foundation for use in climates where frost zones penetrate the earth formation surrounding the building is described. The foundation is characterized by being essentially impervious to frost and moisture so as to considerably minimize heat loss and moisture damage caused by frost penetration of building foundations. The features of the foundation are achieved by encasing formed thermal insulating sheets within the cast concrete foundation about the entire periphery of the building with the formed sheets extending from a location below the frost line to a location above the surface of the earth formation. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-934 552

Means and Method for the Destruction of Particles Entrained in a Gas Stream/293

Moyens et méthode de destruction de particules entraînées dans un courant gazeux/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 17, 1978, by the Department of Energy. Destruction in the context of the subject invention means the fragmentation and/or vaporization of particles above a certain size limit. The invention contemplates destroying such particles by exposing them to intense bursts of laser light, such light having a frequency approximately equal to or less than the mean size of such particles. The invention is particularly adapted to the protection of turbine blades in open cycle coal-fired turbine systems. Means for introducing various chemical species and activating them by exposure to laser light are also disclosed. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-934 762

Recovery of Aluminum and Other Metal Values from Fly Ash/293

Récupération de l'aluminium et d'autres métaux contenus dans les cendres volantes/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 17, 1978, by the Department of Energy. The invention relates to a method for recovering aluminum from fly ash comprising mixing the fly ash with calcium sulfate or a mixture of calcium sulfate with a material selected from the group consisting of calcium carbonate, magnesium sulfate, or magnesium carbonate, sintering the resultant mixture at a temperature which will convert the fly ash to a crystalline structure, and then leaching the aluminum from the sintered mass with an aqueous inorganic acid. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-934 763

Multi-Atmospheric Halogen Compatible Cavity/293

Cavité multi-atmosphérique adaptée aux halogénures/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 17, 1978, by the Department of Energy. The invention discloses a cavity formed of Teflon to provide extended static fill lifetimes for gases containing halogens. A double cavity configuration provides structural integrity to the inner Teflon cavity by maintaining an identical multi-atmospheric pressure within the outer structural cavity to minimize tension on the Teflon inner cavity. Use of a quantity of the lasing gas in the outer cavity or a constituent of that gas minimizes contamination of the lasing gas. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-934 765

Synthetic Carbonaceous Fuels and Feedstocks/293

Combustibles et stocks d'alimentation charbonneux synthétiques/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 17, 1978, by the Department of Energy. This invention relates to the use of three compartment electrolytic cell in the production of synthetic carbonaceous fuels and chemical feedstocks such as gasoline, methane and methanol by electrolyzing an aqueous sodium carbonate/bicarbonate solution, obtained from scrubbing atmospheric carbon dioxide with an aqueous sodium hydroxide solution, whereby the hydrogen generated at the cathode and the carbon dioxide liberated in the center compartment are combined thermocatalytically into methanol and gasoline blends. The oxygen generated at the anode is preferably vented into the atmosphere, and the regenerated sodium hydroxide produced at the cathode is reused for scrubbing the CC sub 2 from the atmosphere. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-934 768

Process for Producing Hydrogen from Water Using Cobalt and Barium Compounds and Compositions Useful Therein/293

Procédé de production d'hydrogène à partir d'eau et de composés de cobalt et de baryum, et compositions utiles connexes/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 17, 1978, by the Department of Energy. A thermochemical process for producing hydrogen comprises the step of reacting CoO with BaO or Ba(OH) sub 2 in the presence of steam to produce H sub 2 and novel double oxides of Ba and Co having the empirical formulas BaCoO sub 2 . sub 33 and Ba sub 2 CoO sub 3 . sub 33. The double oxide can be reacted with H sub 2 O to form Co sub 3 O sub 4 and Ba(OH) sub 2 which can be recycled to the original reaction. The Co sub 3 O sub 4 is converted to CoO by either of two procedures. In one embodiment Co sub 3 O sub 4 is heated, preferably in steam, to form CoO. In another embodiment Co sub 3 O sub 4 is reacted with aqueous HCl solution to produce CoCl sub 2 and Cl sub 2. The CoCl sub 2 is reacted with H sub 2 O to form CoO and HCl and the CoO is recycled to the initial reaction step. The Cl sub 2 can be reacted with H sub 2 O to produce HCl. HCl can be recycled for reaction with Co sub 3 O sub 4. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-938 141

Liquid-Permeable Electrode/293

Électrode perméable aux liquides/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 30, 1978, by the Department of Energy. Specifically relates to fluid-permeable electrodes suitable for use as anodes and cathodes in electrolytic hydrogen generation cells in which it is necessary to continuously remove the products of the electrochemical reaction. The electrode is prepared by mixing about 10 parts by weight of activated charcoal with from 6 to 10 parts by weight of a powdered thermosetting phenolic resin to form a mixture, compacting the mixture in a heated mold of the desired shape to melt the resin and form a green electrode and heating the green electrode to from about 550 to 750 exp 0 C in a nonoxidizing atmosphere for a period of time sufficient to pyrolyze the resin and volatilize from about 40 to 60 weight percent of the resin present in the green compact to form a porous, rigid, liquid-permeable structure. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-942 227

Enhancement of Laser Pulse Contrast Ratios Via Transient Response of Narrow Band Resonant Interferometers/293

Amélioration du contraste des impulsions laser grâce à la réponse transitoire d'interféromètres résonants à bande étroite/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 14, 1978, by the Department of Energy. The present invention utilizes the distinction between the narrow bandwidth unwanted fed-through background signal and the broad-band short duration desired signal. In one embodiment, a resonantly tuned Fabry-Perot interferometer will act as a pulse duration discriminator because it will transmit the undesired feed-through while reflecting the desired signal with little modification. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-942 228

Mosaic of Coded Aperture Arrays/293

Mosaïque de rangées d'ouvertures codées/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 14, 1978, by the Department of Energy. The present invention overcomes the disadvantages and limitations of the prior art by providing a mosaic of aperture arrays. The present invention utilizes either a mosaic aperture or mosaic decoding array to overcome the associated disadvantages and limitations of disengagement and provide a decoded image with zero sidelobes and minimal artifacts. It is therefore an object of the present invention to provide a mosaic of aperture arrays. It is also an object of the present invention to provide a mosaic of uniformly redundant coded aperture arrays. It is also an object of the present invention to provide a mosaic of coded aperture arrays which minimizes detector size. Another object of the present invention is to provide a mosaic of coded aperture arrays which contains complete imaging information within a section of the encoded image having a size the same as the projected shadow of the basic aperture pattern. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-943 270

Scalable, High Power Laser Cavity for Static Metal Vapor Laser Media/293

Cavité laser haute puissance ajustable pour milieu laser statique à vapeur métallique/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 15, 1978, by the Department of Energy. The invention discloses a laser cavity for laser media requiring either interaction with the cavity walls or thermal diffusion for operability, which comprises a cavity volume of one or more concentric annular cells of a thickness and length permitted by the operability condition and conical reflective optical elements defining paths through the cavity. The advantage of such a system is that its volume and therefore its output is scalable by increasing the radial dimension of the cavity. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-943 827

MHD Generating System/293

Système électrogène MHD/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 19, 1978, by the Department of Energy. Coal combustion gas is the primary working fluid and copper or a copper alloy is the electrodynamic fluid in the MHD generator, thereby eliminating the heat exchangers between the combustor and the liquid-metal MHD working fluids, allowing the use of a conventional coal-fired steam bottoming plant, and making the plant simpler, more efficient and cheaper. In operation, the gas and liquid are combined in a mixer and the resulting two-phase mixture enters the MHD generator. The MHD generator acts as a turbine and electric generator in one unit wherein the gas expands, drives the liquid across the magnetic field and thus generates electrical power. The gas and liquid are separated, and the available energy in the gas is recovered before the gas is exhausted to the atmosphere. Where the combustion gas contains sulfur, oxygen is bubbled through a side loop to remove sulfur therefrom as a concentrated stream of sulfur dioxide. The combustor is operated substoichiometrically to control the oxide level in the copper. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-945 376

Fiber Optic Solid State Switch/293

Commutateur semi-conducteur à entrée pour fibre optique/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 25, 1978, by the Department of Energy. In accordance with the invention, a remotely controlled solid state relay is provided with a fiber optic input. This relay is powered by the circuit being controlled. Therefore, no external power supply is required. A trigger circuit, powered from the ac line, is actuated by back biased PIN diode. The trigger circuit controls a switch comprising a pair of silicon controlled rectifiers, connected in series with the ac source and the load. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-945 923

Nonimaging Radiant Energy Direction Device/293

Collecteur-émetteur d'énergie rayonnante ne formant pas d'images/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 26, 1978, by the Department of Energy. A noninaging radiant energy light direction device is provided which may be utilized for both the collection and transmission of radiant energy. The device includes an energy transducer and at least one reflective wall of particular contour. The particular contour is determined by assuming the transducer is acting as an incoherent. Lambertian radiant energy emitter of finite dimension. The reflective wall is placed along a flow line of the geometrical vector flux associated with such an emitter. The ideal contour will also satisfy the condition that the rays of radiant energy are in a state of detailed balance along the mirror. Both trough shaped and cone like direction devices can be developed from this design method. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-945 924

Portable Probe to Measure Sensitization of Stainless Steel/293

Sonde portative pour mesurer la sensibilisation de l'acier inoxydable/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 26, 1978, by the Department of Energy. A portable electro-chemical cell consists of a reservoir containing an electrolyte, a standard calomel electrode having a terminal disposed in electrical contact with the electrolyte, a graphite electrode that is also in contact with the electrolyte, and a capillary tube that establishes a capillary connection between the standard calomel electrode and the electrolyte near the surface of a sample to be examined. A comparison of the charge transferred in response to a swept electrical potential difference between the graphite electrode and the test sample provides a measure of properties of the sample. The calomel electrode provides a potential for comparison. The cell is usable in any physical orientation and is portable enough to make useful measurements on installed stainless steels to determine whether a pipe or other structure of stainless steel has been sensitized by welding or other treatment involving heat. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-945 925

Method for Laser-Annealing Silicon/293

Technique de recuit du silicium par laser/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 26, 1978, by the Department of Energy. An improved method for laser-annealing ion-implanted layers in n-type and p-type silicon substrates is provided. This method provides for laser-annealing diffused layers produced by the high-temperature diffusion of dopants into n-type or p-type silicon substrates, laser-annealing n-type or p-type silicon containing grown-in defects, the annealing being effected with at least one laser pulse whose wavelength, energy density and duration comprise a novel and highly effective combination of silicon-melting parameters, and a rapid method for segregating undesired impurities such as copper and iron in a near-surface region of silicon semiconductor material, thus facilitating subsequent removal of the impurities from the material. For negotiations write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-050 554

1, 2-Diaminocyclohexane Platinum (II) Complexes Having Antineoplastic Activity/293

Complexes du 1, 2 — diaminocyclohexane — platine (II) à activité antinéoplastique/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed June 20, 1979, by the Department of Health, Education, and Welfare. The patent application discusses organoplatinum complexes effective as antitumor agents and having sufficient water-solubility for use in aqueous i.v. fluids. The organoplatinum complexes include malonato (1,2-diaminocyclohexane) platinum (II), hydroxymalonato (1,2-diaminocyclohexane) platinum (II), dinitrato (1,2-diaminocyclohexane) platinum (II), sulfato (1,2-diaminocyclohexane) platinum (II), and hydroxonitrato (1,2-diaminocyclohexane) platinum (II). For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-064 608

Removal of Sodium Sulfate from a Sulfate-Containing Sodium Chloride Solution in a Process for Separating Zirconium and Hafnium/293

Extraction de sulfate de sodium d'une solution de chlorure de sodium contenant du sulfate dans un procédé de séparation du zirconium et de l'hafnium/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 7, 1979, by the Department of the Interior. This invention relates to the removal of sodium sulfate in a process for separating zirconium and hafnium, and relates in one embodiment to the recovery of sodium sulfate having a purity greater than 99.9%. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-069 677

Separation of Zirconium from Hafnium by Solvent Extraction/293

Séparation par un solvant du zirconium de l'hafnium/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 27, 1979, by the Department of the Interior. Separation of zirconium and hafnium by solvent extraction with a tertiary amine from sulfuric acid solution is improved by addition of water-soluble alpha-hydroxycarboxylic acid to the aqueous phase. For negotiations write: Mr. George Kudravetz, Product Manager, NTIS, United States Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-089 779

Corrosion Resistant Thermal Barrier Coating/293

Revêtement calorifuge résistant à la corrosion/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 31, 1979, by NASA. A thermal barrier coating system was developed to protect the surfaces of metal components, gas turbines, and other heat engine parts that are exposed to fuels contaminated with metallic impurities which are normally corrosive to previously known metallic coatings. The coating system includes a metal alloy bond coating, the alloy containing nickel, cobalt, iron, or a combination of these metals. The system also includes a corrosion resistant thermal barrier oxide coating containing at least one alkaline earth silicate. The preferred oxides are calcium silicate, barium silicate, magnesium silicate, or a combination of these silicates. For negotiations write: NASA, Lewis Research Center, 21000 Brookpark Road, Cleveland, Ohio 44135 and send a copy of your initial correspondence to Canadian Consulate, Illuminating Building, 55 Public Square, Cleveland, Ohio 44113.

PAT-APPL-6-067 596

Indirect Microbial Detection/293

Détection microbienne indirecte/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 17, 1979, by NASA. The 'invention' disclosed is an indirect microbial detection method. The growth of microorganisms in a sample is detected and monitored by

culturing microorganisms in a growth medium and detecting a change in potential between two electrodes separated from the microbial growth by a barrier which is permeable to charged particles but microorganism impermeable. For negotiations write: NASA, Langley Research Center, Mail Code: 279, Hampton, Virginia 23665 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-069 429

Induction Heating Gun/293

Pistolet chauffant à induction/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 24, 1978, by NASA. A device was developed for inductively heating and fusing thermoplastics. The device includes an alternating current passing through a tank circuit and an inductor member of the tank circuit being wrapped around a curved pole piece of a ferromagnetic material. The magnetic flux arising within the inductor coil member flows to the ends of the pole piece and into a screen placed between the materials to be joined. The flux induces a current in the screen, and heat is generated to melt the thermoplastics together. Because only 30-150 watts of power are passed through the tank circuit, a wire which will remain cool under operational wattage may be selected, making air or fluid cooling unnecessary. For negotiations write: NASA, Langley Research Center, Mail Code: 279, Hampton, Virginia 23665 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-086 508

Wide Angle Optical Systems/293

Système optique à champ large/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 19, 1979, by NASA. A wide angle optical field flattening system for a multispectral scanner is described which provides a large field angles and high resolution at low f-numbers. The system utilizes a basic optical element in the form of a first flat surface of a reflecting element which directs a ray bundle to a second spherical reflection surface. The second spherical reflection surface reflects the bundle to a field flattener coating on a third spherical surface located intermediate of the first flat surface and the second spherical surface. The third spherical surface forms an exit ray bundle on a flattened image plane with a lower f-number than that reflected from the field flattener coating. The exist ray bundle is passed through a coating to the image plane and to a sensing or scanning surface. For negotiations write: NASA, Lyndon B. Johnson Space Center, Mail Code: AM, Houston, Texas 77058 and send a copy of your initial correspondence to Canadian Consulate, 2001 Bryan Tower, Suite 1600, Dallas, Texas 75201.

PAT-APPL-6-088 663

Use of Glow Discharge in Fluidized Beds/293

Emploi de décharges luminescentes dans des lits fluidisés/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 26, 1979, by NASA. Static charges and agglomeration of particles in a fluidized bed system are minimized by maintaining in at least part of the bed a radio frequency glow discharge. This approach is eminently suitable for processes in which the conventional charge removing agents, i.e., moisture or conductive particle coatings, cannot be used. The technique is applied here to the disproportionation of calcium peroxide diperoxyhydrate to yield calcium superoxide, an exceptionally water and heat sensitive reaction. For negotiations write: NASA, Ames Research Center, Mail Code: 200-11A, Moffett Field, California and send a copy of your initial correspondence to the Canadian Consulate, One Maritime Plaza, Alcoa Building, Suite 1100, Golden Gateway Center, San Francisco, California 94111.

PAT-APPL-945 436

Geological Assessment Probe/293

Sonde géologique/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 25, 1978, by NASA. A probe is described which can be installed in a side hole that extends from a bore hole in the earth, to assess the permeability of the strata surrounding the borehole. The probe is elongated and has seals spaced the walls of the side hole to form chambers sealed from one another. A tracer fluid injector on the probe can inject a tracer fluid into one of the chambers, while a tracer fluid detector located in another chamber can detect the tracer fluid, to thereby sense the permeability of the strata surrounding the side hole. The probe can include a train of modules, with each module having an inflatable packer which is inflated by the difference between the borehole pressure and the strata pressure. For negotiations write: Monte F. Mott, Patent Counsel, NASA Resident Legal Office, Mail Code: 180-601, 4800 Oak Grove Drive, Pasadena, California 91103 and send a copy of your initial correspondence to Canadian Consulate General, 510 West Sixth Street, Los Angeles, California 90014.

PAT-APPL-953 509

Quick Disconnect Electrical Connector Having Disassembly Features for Refurbishment/293

Connecteur électrique à débranchage rapide et à démontage facile pour remise à neuf/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 23, 1978, by the Department of the Navy. The invention is an improvement to the female portion of a quick disconnect electrical connector so that said portion can be easily disassembled for refurbishment. The female portion of the quick disconnect is of the type having concentric sleeves which are slidable with respect to one another. The forward ends of the sleeves are adapted to receive a male portion of the mating electrical connector, and the rearward end of one of the sleeves is connected to an elongated element, such as an electrical cable. An annular space is provided at the rearward end portions of an inner and outer adjacent pair of the sleeves, and a compression spring within the annular space is utilized for urging the adjacent sleeves longitudinally apart with respect to one another. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-034 886

Force Sensing System/293

Système capteur de force/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed April 5, 1979, by the Department of the Navy. Apparatus for measuring thrust loading on a rotating shaft. A plurality of strain gages, electrically connected in parallel and series to form one arm of a Wheatstone bridge circuit, are mounted at equal intervals on a thin strap or band formed to surround the shaft with a predetermined hoop load. Lubricating material disposed between the shaft and the band prevents transfer of friction forces from the shaft to the band. As the thrust loading increases, shaft dilation (girth increase) causes the band to stretch and increase its stress. This hoop stress is measured by the strain gages mounted on the band, and is transmitted as the output signal produced by the bridge via radio telemetry or slip rings to a remote indicator. A second arm of the Wheatstone bridge circuit, to provide compensation for temperature effects, can be provided by an additional strain gage mounted on a block of material identical to that of the shaft which block is in turn mounted on the above thin strap or band. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-053 664

The Application of Inductively Coupled Plasma Emission Spectrometry to the Elemental Analysis of Organic Compounds and to the Determination of the Empirical Formulas for These and Other Compounds/293

Application de la spectrométrie d'émission par plasma à couplage inductif au dosage des éléments des composés organiques et à la détermination des formules empiriques de ces composés et d'autres composés/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed July 2, 1979, by the Department of the Navy. An inductively coupled plasma torch (ICP) provides an efficient means for thermally degrading many organic molecules and exciting the resulting atomic species into optical emission. Spectrometric analysis produces reliable data for qualitative and quantitative simultaneous, multi-element analyses. To determine the empirical formula of a molecular compound, a gas chronometer is used to separate a mixture and atomic emission monitored continuously by a multi-channel spectrometer over the period of time required for the rise and fall of the elution. The plural channels provide parallel outputs defining intensity relationships or ratios of the excited elements. Instantaneous sampling repetitively made during the elution period provides a large number of discrete ratios that are averaged to provide the desired empirical formula. Molecular formulas then are derivable. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-056 590

Compensating Structure for Circulation Control Rotor Pneumatic Valve/293

Dispositif de compensation pour clapet pneumatique de commande de débit à rotor/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed July 11, 1979, by the Department of the Navy. This invention relates to structure for minimizing gap changes in a circulation control pneumatic valve. A flat, flexible ring is

located below and adjacent to the plane of the nozzle of blade ducts. The flat, flexible ring is supported from beneath by an array of actuators. In one embodiment, the nozzles are immobilized relative to hub-induced displacements and thus eliminate any feedback due to hub flexing. In another embodiment, the nozzle is pivotally attached to a rotating carrier and feedback is reversed so that feedback becomes negative. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-067 072

Constant Beamwidth Transducer/293

Transducteur à largeur de faisceau constante/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 15, 1979, by the Department of the Navy. This document discloses a broadband directional transducer, for providing both a beam pattern that is essentially constant for all frequencies above a certain cutoff frequency and an acoustic pressure distribution that is virtually independent of the distance from the transducer, includes a thin spherical cap of transduction ceramic material, the cap having a contour of arbitrary half-angle alpha which is measured from the axis of the cap, and having electrodes placed at the front and back surfaces of the cap such that when a sinusoidal voltage is applied across the electrodes the front surface vibrates sinusoidally with a radial velocity whose distribution over the cap is given by P sub nu (cos Theta), the Legendre function whose root of smallest angle occurs at Theta = Alpha, and where theta is an angle measured from the axis of the cap. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-067 648

Method of Extending the Fatigue Life of Wire Rope/293

Méthode d'accroissement de la vie utile des câbles métalliques/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 17, 1979, by the Department of the Navy. A method of prestretching a wire rope to substantially increase its useful life. Wire rope is stretched with loads less than its measured tensile breaking strength, which causes a slight plastic stretch. This plastic stretch has been found to increase its useful life by extending the fatigue life of the wire rope. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-069 654

Apparatus and Method for Submicron Pattern Generation/293

Appareil et méthode de dépôt de dessins submicroniques/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 27, 1979, by the Department of the Navy. An apparatus and method are provided for depositing submicron patterns on a substrate. The apparatus includes an evaporative source located opposite the substrate so that molecules from the source can be deposited directly on the substrate. A mask is located between the evaporative source and the substrate, the mask having openings which correspond to the desired pattern to be deposited on the substrate. A plate is located between the mask and the substrate, the plate having an aperture for allowing evaporated molecules to be deposited on the substrate according to the pattern of the mask. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-069 697

Improved Performance of Metal Dihalide Dissociation Lasers by Changed Buffer Gas Composition/293

Rendement amélioré des lasers à dissociation d'un dihalogénure de métal par changement de la composition du gaz tampon/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed August 27, 1979, by the Department of the Navy. A pulsed laser emits laser energy by dissociative excitation of metal dihalide and cyclic recombination. A metal diha-

lide selected from subgroup II-B of the periodic table of elements is contained within an elongate sealed enclosure. Two elongate electrodes having external terminals are supported in parallel relationship within the enclosure, forming a gap parallel to the principal axis of the enclosure. A source of pulsed electric power is connected to the terminals of the two electrodes, producing repetitive transverse electric discharges across the gap. An inert buffer gas is included within the enclosure for aiding electric discharge uniformity, to provide vibrational relaxation of the lasing medium in its electronic states and to participate in the dissociative excitation process. The buffer gas is one of several mixtures of discrete percentages of neon and nitrogen. The gas/vapor mixture, consisting of the chosen buffer gases and the chosen metal dihalide vapor is ionized by a third electrode within the enclosure connected to a source of pulses which immediately precede the pulses applied to the first and second electrode so that the lasing medium is preionized immediately prior to the principal electric discharge. Two reflective surfaces, one of which is only partially reflective, are aligned with the principal axis of the laser assembly for producing an optical resonator for the emitted laser energy. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-074 448

New Method for Expitaxial Growth of GaAs Films and Devices Configuration Independent of GaAs Substrates/293

Nouvelle méthode de croissance épitaxiale de couches et de dispositifs au GaAs à configuration indépendante du substrat en GaAs/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 11, 1979, by the Department of the Navy. A method of growing high-quality, super-abrupt, thin-film epitaxial layers independent of a GaAs substrate. An elemental semiconductor of germanium is used to initiate growth of an active material, typically doped n-type. A semi-insulating layer or n + layer is grown on the n-type active material. Subsequent to growth of the semi-insulating layer, a thin cap of germanium is deposited on the composite. Gold is deposited onto the germanium cap to form an eutectic-alloy layer with the germanium. The alloy is formed and the composite is bonded to a metal, glass, or ceramic substrate and the semiconductor (germanium) is removed by etching and the n-layer is finally etched to provide a clean-up and to tailor the layer to a desired thickness. Subsequent steps are employed to form desired structures such as field-effect transistors or Schottky-barrier devices. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-078 257

Dielectric Corona Rings/293

Anneaux diélectriques anti-effluves/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed September 24, 1979, by the Department of the Navy. Electrical conductors at high voltage are surrounded by electric fields that are more concentrated, i.e., have higher voltage gradients, in the vicinity of sharp points or small radii of curvature of electrodes, terminals, or conductive components of the circuit. If the voltage gradient is high enough the air surrounding these points will be ionized, and a corona discharge will develop which may lead to a flashing spark or arc discharge to another conductor at a different potential. The use of toroidal metallic corona rings around these vulnerable points in order to minimize electrical discharging is common practice. However, the metal corona rings frequently are insufficient to prevent flash discharging. This invention uses dielectric corona rings to provide a significant improvement over the prior metal type corona rings, and thus increase the insulating capability of high voltage insulators. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-081 737

Laser Speckle Eliminator/293

Éliminateur de granularité laser/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 4, 1979, by the Department of the Navy. The subject invention may be utilized to eliminate laser speckle from visual display systems, including the 360 degree Non-Programmed Visual Display in that is comprises a relatively simple apparatus for the elimination of laser speckle from a laser light beam. The subject invention includes a multi-fiber optical bundle having a plurality of optical fibers for transmitting a collimated beam of coherent light provided by a laser, oscillating means for deflecting the multi-fiber optical bundle at a predetermined frequency rate so as to eliminate laser speckle from the collimated beam of coherent light, and a means for projecting the collimated beam of coherent light onto a screen. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-086 859

Electrical Fire Fighting Simulator/293

Panneau électrique simulateur d'incendie/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 22, 1979, by the Department of the Navy. Apparatus that imitates the appearance of an electrical control panel and simulates panel fires. The apparatus has a smoke generator, and burners supplied by a source of fluid fuel, that are responsive to the combined effects of an electrical control switch and flame sensors. The simulator permits trainees to be schooled in the proper firefighting procedures for the electrical environment. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-088 191

Anastigmatic Three-Dimensional Bootlace Lens/293

Lentille anastigmate tridimensionnelle à prises multiples/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 25, 1979, by the Department of the Navy. This invention relates to a three-dimensional bootlace lens with minimum possible focusing aberrations, minimum possible focusing size and minimum possible dielectric loading. The feed and lens surfaces are in the shape of a spherical cap and covered by contiguous arrays of radiators. The region between the inner surfaces of the lens is filled with a nonuniform dielectric material with an index of refraction which constantly changes from the center line outwardly. Lens ports are connected to a radiating antenna array by means of coaxial transmission lines all of which have the same length. The axial feed point has a focusing performance which is perfect. For all other points the lens is free of all first-order aberrations including coma. The outputs of the lens can be used to feed a planar radiating antenna array so as to produce a multiple directive beam in one angular dimension or to feed a circular array so as to make it amenable to scanning or multibeam feed systems that are used with linear arrays. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-089 058

Flexi-Bend Corrugated Waveguide/293

Guide d'ondes souple à surface ondulée/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed October 29, 1979, by the Department of the Navy. The present invention relates generally to the field of waveguides and more specifically to the field of waveguides suitable for providing low loss versatile bending of electromagnetic energy in the TE01 circular waveguide mode without generating unwanted parasitic modes. Unsymmetrical corrugations approximately one-quarter wavelength deep are utilized to suppress energy transfer to other modes inherent in smooth wall circular guide bends. The corrugations are composed of a plurality of adjacent internal ridges and valleys having substantially parallel walls such that the distance between the parallel walls of the internal ridges are at least twice the distance between the parallel walls of the internal valleys. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-092 826

Focusing Anode for Cold-Cathode Electron Gun/293

Anode de focalisation pour canon à électrons à cathode froide/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed November 9, 1979, by the Department of the Navy. This document discloses a focusing anode for a cold-cathode electron gun for exciting gas-filled lasers. In E-beam excitation of gas lasers the E-beam passes an electron-collecting aperture. The E-beam normally diverges so that all of the electrons do not pass through the aperture. By shaping the electrostatic field near the electron collecting aperture, the electrons are guided through the aperture. With a transparent grid-type anode having the shape of a section of a semi-cylinder, it has been determined that the number of electrons entering the laser cell is approximately four times higher than with a flat grid anode as presently used in the prior art. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

PAT-APPL-6-094 125

Laser Having Simultaneous Ultraviolet and Visible Wavelengths/293

Laser rayonnant simultanément dans l'ultraviolet et dans le visible/293

Price per copy from NTIS: PC U.S. $5.00/MF U.S. $3.50, filed November 14, 1979, by the Department of the Navy. This document discloses a method and system for extraction of visible optical energy from gas lasers having simultaneous ultraviolet and visible transitions. In this disclosed method, stimulated emission on the UV transition of rare-gas halide molecules is converted to a wavelength which coincides with the wavelength of the visible transition using a dye laser cell mounted in a common optical cavity with the visible laser. Excitation of the rare-gas halide laser produces high gain UV and low gain visible transitions. The UV is focused into a visible dye cell, and stimulated emission occurs in the dye cell which is contained in an optical cavity also containing the gas laser. The stimulated emission of the dye cell is amplified by the discharge-pumped gas laser medium. Since the gain of the dye laser is very high, the arrangement allows laser emission at the visible wavelength to build-up every rapidly during the gas laser excitation discharge pulse. Laser emission has been produced over a waveguide bandwidth between 460 and 510 nm. For negotiations write: U.S. Department of the Navy, Assistant Chief for Patents, The Office of Naval Research, Mailing Code: 302, Arlington, Virginia 22217 and send a copy of your initial correspondence to the Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102.

Licensing Opportunities from Japan

Contact:
Mr. Hiroshi Ando
Manager
Department of Patent License
Research Development Corporation of Japan
5-2, Nagata-cho 2-chome
Chiyoda-ku, Tokyo 100
Japan

The following developments at the production stage, are offered for manufacture in Canada by the RESEARCH DEVELOPMENT CORPORATION OF JAPAN. Enquiries concerning the acquisition of the Canadian manufacturing rights should be addressed to MR. HIROSHI ANDO at the above address with a copy of the initial correspondence sent to: Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan. Please quote the full title and reference number of the item you are interested in. At the same time JRDC would prefer to receive any information about you and your activities.

JRDC 9712

Ingot Mold Grinding Machine/293

This machine grinds the inner surfaces of steel ingot cases and slabs. Since the grinding head equipped to the end of the arm can be directed either clockwise or counterclockwise by 180° by swinging the grinding arm clockwise or counterclockwise respectively, the inner surfaces of the ingot case can be ground to its right or left end. The longitudinal feed bogie can be adjusted either clockwise or counterclockwise by 3° in angle, so that centering can be accomplished in the longitudinal direction in light of the vertical inner wall of a heavy ingot case to be ground. The loading pressure of the head can be adjusted for grinding of both the upper and lower surfaces of the ingot case by means of an air cylinder, based on the rule of lever. Also, machines are available that permit simultaneous grinding of four surfaces, that are exclusively designed for grinding corrugated faces, and that design and manufacture grinding machines according to the dimensions of the mold to be ground. Advantages: two grinding machines can be easily operated by one person at their well arranged control panels; easy operation, safety and increased efficiency.

JRDC 9713

Automatic Fishing Device/293

For landing bonito, tuna, etc., with fishing rods which are raised mechanically. The device includes a main fishing device, a control panel with a main switch, operating

Possibilités d'obtention de licences du Japon

S'adresser à:
Monsieur Hiroshi Ando
Directeur
Service des licences de brevets
Corporation de développement des recherches
5-2, Nagata-cho 2-chome
Chiyoda-ku, Tokyo 100
JAPON

La CORPORATION DE DÉVELOPPEMENT DES RECHERCHES du Japon offre les développements suivants, au stade de production, pour la fabrication sous licence au Canada. Les demandes de renseignements concernant l'acquisition des droits de fabrication au Canada doivent être adressées à M. HIROSHI ANDO à l'adresse ci-dessus et une copie de la correspondance initiale devrait être envoyée à la Division commerciale, Ambassade du Canada, 3-38 Akasaka 7-chome, Minato-ku, Tokyo 107, Japon. Veuillez indiquer le titre complet et le numéro de référence de l'article qui vous intéresse. La Corporation aimerait également recevoir en même temps que votre demande des renseignements sur votre entreprise et vos activités.

JRDC 9712

Meuleuse pour moules à lingot/293

Il s'agit d'une machine qui meule la surface intérieure des moules pour lingots d'acier et des tables de coulée. Fixée à l'extrémité du bras, la meule peut tourner sur 180° vers la gauche ou la droite, ce qui permet de travailler les deux extrémités des moules. Le chariot d'alimentation longitudinale peut être réglé de 3° vers la gauche ou la droite; le centrage peut donc se faire dans le sens longitudinal, de sorte qu'il est possible de meuler la paroi verticale intérieure des gros moules. La pression de meulage peut être réglée à l'aide d'un vérin pneumatique en fonction des surfaces supérieure et inférieure du moule, selon le principe du levier. Certaines machines permettent de meuler simultanément quatre surfaces; d'autres sont conçues exclusivement pour meuler les surfaces ondulées; les meules peuvent être conçues et fabriquées selon les dimensions des moules à usiner. Avantages: une seule personne peut facilement faire fonctionner deux meules à la fois, étant donné la bonne disposition des panneaux de commande; facilité d'utilisation, sécurité et efficacité sont accrues.

JRDC 9713

Dispositif automatique de pêche/293

Dispositif de relevage mécanique des lignes pour la pêche à la bonite, au thon, etc. L'ensemble comprend un dispositif principal de pêche, un panneau de commande avec un

switches of each fishing unit, etc., and a pump unit that controls the operation of the fishing unit. It features: 1) a series of fishing operations from manipulation, detection, landing, removal to returning the fishing rod which can be carried out automatically and repeatedly; 2) as the fishing-up force can be automatically adjusted according to the weight of fish, either small or large fish can be securely landed and brought to an almost fixed position on the boat; 3) plural fishing units can be remotely controlled at the control panel installed on the deck; 4) the pulling angle can be selected and stopped at either position for small fish or large fish, so that both small and large fish can be easily removed from the hook.

JRDC 9715

Moisture-Barrier Valved Sacks/293

Process for manufacturing valved sacks for cement and sulphur powder, etc. Plastic material is used for the outer layer, while kraft paper characterized by good air-permeability is used for the inner layer, both layers being glued to each other in such a way that longitudinal grooves are formed between the two layers. This design ensures smooth escape of the air, allowing packing of powdered materials to a specified quantity.

JRDC 9716

Electrolytic Cell for Production of Sodium Hypochloride/293

This is a kind of non-diaphragm type seawater electrolysis apparatus. The FRP electrolytic cell proper is cylindrical, lightweight and anti-corrosive against seawater. Bar-type anodes and cathodes are arranged in parallel. Platinum-plated titanium and other insoluble materials are used for the anode, while steel is used for the cathode. Advantages: quantity of NaOC1 produced per unit amount of electricity is approximately 10 percent greater; less deposit of magnesium hydroxide on the cathode and in the surrounding area; the electrolytic cell is smaller and more compact; ease of maintenance.

JRDC 9717

Cathode Plate Polishing Equipment/293

Automated polishing in metal electrolytic refineries, particularly zinc electrolytic refineries. The equipment consists of the following: 1) stock conveyor with separator and feeder; 2) loading hanger; 3) polisher; and 3) line-up conveyor with unloader. Polishing speed is as high as 24 seconds per piece. Polishing can be done without damaging the supporter and requires no extra labor. Work environment is pleasant and safe because of wet polising. Polishing can be accomplished without decrease in the efficiency by adding an accessory mechanism, when a special movable supporter is provided for the cathode plate for automatic stripping of electrolytic metal.

interrupteur principal, des interrupteurs pour chacune des lignes, etc., et une unité de pompage qui commande le fonctionnement de l'unité de pêche. Caractéristiques: (1) une série d'opérations (manipulation, détection, accrochage, décrochage et relancement de la ligne) peut être faite automatiquement et continuellement; (2) comme la force de ferrage peut être réglée en fonction du poids du poisson, on peut efficacement ramener de petits ou de gros poissons; (3) plusieurs unités de pêche peuvent être contrôlées à distance à partir du panneau de commande; (4) l'angle de remontée des lignes peut être sélectionné et fixé à des positions différentes pour les petits ou les gros poissons, de sorte qu'ils peuvent être facilement décrochés de l'hameçon.

JRDC 9715

Sacs à soufflet imperméables/293

Procédé de fabrication de sacs à soufflet imperméables pour le ciment, la fleur de soufre, etc. Le sac est constitué d'une couche extérieure de polypropylène et d'un sac intérieur en papier kraft, les deux étant collés ensemble de façon à laisser libre des bandes longitudinales entre les deux couches. Ceci permet à l'air de s'échapper et autorise le remplissage jusqu'à ce qu'il y ait une quantité spécifiée de matériaux en poudre.

JRDC 9716

Cellule électrolytique de production d'hypochlorite de sodium/293

Appareillage sans diaphragme d'électrolyse de l'eau de mer. La cellule électrolytique elle-même, en plastique renforcé de fibre de verre, est cylindrique, légère et résistante à la corrosion par l'eau de mer. Les anodes et les cathodes sont des barres arrangées en parallèle. Les anodes sont en titane platiné ou autre matériau insoluble et les cathodes sont en acier. Avantages: la quantité de NaOC1 produite par unité de courant électrique est environ 10% supérieure; le dépôt d'hydroxyde de magnésium sur les cathodes et les zones avoisinantes est réduit; la cellule électrolytique est plus petite; l'ensemble est d'un entretien facile.

JRDC 9717

Matériel de polissage des plaques cathodiques/293

Le présent dispositif permet le polissage automatisé au cours du raffinage électrolytique du métal, particulièrement dans le cas du zinc. Le matériel comprend les éléments suivants: 1) chaîne transporteuse avec séparateur et dispositif d'alimentation; 2) support de chargement; 3) dispositif de polissage; et 4) chaîne transporteuse servant à l'alignement, munie d'un dispositif de déchargement. Le polissage d'une pièce peut se faire en 24 secondes seulement. L'opération n'endommage pas le dispositif de support et n'exige pas de main-d'oeuvre supplémentaire. Le milieu de travail est plaisant et sans danger puisque le polissage ne se fait pas à sec. Le polissage peut se faire sans que l'addition d'un mécanisme auxiliaire ne réduise l'efficacité, pourvu qu'un dispositif mobile spécial puisse supporter la plaque cathodique de façon à permettre le décapage automatique du métal électrolytique.

JRDC 9718

Battery-Powered Driverless Fork Lift Truck/293

Fork truck has a control device, including a sensor for automatic traveling, for forward looking, a sensor for detecting lifting heights and others and a microcomputer. It performs automatic traveling, steering, lifting, and stacking or removing along the wire embedded underground according to a program fed into a remote control panel on the ground. It is best suited to: manpower saving in the physical distribution among production lines; a -30°C to -50°C warehouse for frozen foods; transportation of waste in a nuclear power plant; and others. Advantages: one to two drivers (including a relief) can be saved per fork lift truck, resulting in considerable reduction of labor costs; the equipment cost can be 1/2 to 1/3 as compared with an automated warehouse equipped with a stacker crane or a conveyor; since the fork lift truck travels along the wire embedded underground, the traveling course can be crossed by men or vehicles; the course can be added or moved easily.

JRDC 9718

Chariot élévateur télécommandé à batterie/293

Il s'agit d'un chariot élévateur dont la commande comprend un micro-processeur, un détecteur permettant le déplacement automatique et la détection avant et un détecteur de hauteur et d'autres paramètres. Ce chariot se déplace, se dirige, soulève, empile et enlève les charges automatiquement le long d'un fil enfoui dans le sol, selon un programme mis en mémoire à un panneau de commande placé sur le sol, à distance. Le chariot convient particulièrement aux chaînes de montage où il permet d'économiser de la main-d'oeuvre, à l'utilisation dans les entrepôts frigorifiques pour aliments où la température est comprise entre -30°C et -50°C, au transport des déchets des centrales nucléaires, etc. Avantages: (1) économie d'un ou deux chauffeurs (y compris un chauffeur de relève) par chariot élévateur, ce qui permet de réduire considérablement les coûts de main-d'oeuvre; (2) le coût du matériel ne correspond qu'à la moitié ou au tiers de celui d'un entrepôt automatisé équipé d'une grue ou d'une bande transporteuse; (3) comme le chariot suit un fil enfoui dans le sol, les personnes et les véhicules peuvent traverser le parcours; (4) le chemin peut être prolongé ou modifié facilement.

JRDC 981

IC Frame Silver Plating Solution/293

In the past, gold was used for the bonding base of the IC frames but recently a silver plating solution has been developed by adding special components, which permit silver plating of frames in one process and which can be used over a wide density range, thereby facilitating work.

JRDC 981

Solution de placage à l'argent des plaques de C.I./293

Autrefois, on utilisait l'or comme base de liaison pour les plaques de C.I., mais récemment on a mis au point une solution de placage à l'argent, grâce à l'addition de certains éléments. On peut maintenant plaquer à l'argent en une seule opération et dans toute une gamme de densités, ce qui facilite le travail.

JRDC 983

Liquid Crystal Display (LCD)/293

LCD is a digital display consisting of two sheets of transparent glass separated by a sealed-in liquid crystal material. When a voltage is applied, the orderly arrangement of molecules is modified, causing changes in the optical properties of the liquid crystal material, thereby a display being accomplished. Because of small power consumption, LCD is widely utilized in digital watches and desk calculators. This technology includes techniques for designing LCD, material selection according to intended application, and LCD manufacturing, and offers means for efficient production of LCDs having sizes and driving systems according to the purpose of use. It permits monthly production of 20,000 to 250,000 LCDs, covering a very small type (approx. 5X10 mm) to a very large type (approx. 200X 300 mm).

JRDC 983

Affichage à cristaux liquides/293

Affichage numérique constitué de deux feuilles de verre emprisonnant un matériau cristallin liquide. Lorsqu'on applique une tension, on modifie l'arrangement des molécules, ce qui change les propriétés optiques du matériau et produit l'affichage. En raison de sa faible consommation d'énergie, l'affichage par cristaux liquides est très utilisé dans les montres et les calculateurs de poche à affichage numérique. La présente technique porte sur des méthodes de conception, le choix de matériaux adaptés et enfin la fabrication. Il s'agit d'une technique de production efficace de systèmes d'affichage de tailles et moyens de commande divers, fonction de l'utilisation prévue. La production mensuelle peut atteindre 20 000 à 250 000 unités de tailles allant de 5 x 10 mm à 200 x 300 mm environ.

JRDC 985

Photoelectric Device Having a Si-Sn02 Hetero-Junction/293

A process for producing a semi-conductor photoelectric device which utilizes a hetero-junction formed by deposit-

JRDC 985

Cellule photo-électrique à hétérojonction Si-$Sn0_2$/293

Procédé de production de cellules photo-électriques à semi-conducteurs utilisant une hétérojonction obtenue par

ing a thin stannic oxide ($Sn0_2$) layer on an N-type silicon substrate. Dimethyl theine dichloride ($(CH_3)_2SnC1_2$) is thermally decomposed in an oxidized atmosphere for approximately two minutes and a stannic oxide layer approximately 5,000 A in thickness is deposited on an N-type silicon substrate, having preferably a (100) crystallographic orientation, being heated to approximately 500°C. To reduce the sheet resistance of the stannic oxide layer, a better result can be obtained by adding antimony chloride ($SbC1_3$) to the said thermally decomposed material. The hetero-junction thus formed displays an excellent rectifying characteristic and photovoltaic effect. If a larger light reception area is required, the satisfactory photoelectric characteristics can be maintained by dividing the stannic oxide layer in sections to reduce the effects of shearing stress between silicon and stannic oxide. This technology permits production at very low temperature as compared when PN junctions are formed by diffusion, therefore it is expected that the method can be applied to continuous production of solar cells.

dépôt d'une mince couche d'oxyde stannique ($Sn0_2$) sur du silicium de type N. Du diméthyl-dichloroétain [$(CH_3)_2SnCl_2$] est décomposé thermiquement, en atmosphère oxydante, pendant environ deux minutes et il se dépose une couche d'environ 5000 A d'oxyde stannique sur le silicium de type N. On chauffe à 500°C environ et l'orientation cristallographique est de préférence (100). Pour diminuer la résistance de la couche d'oxyde stannique, on obtient de meilleurs résultats en ajoutant du chlorure d'antimoine ($SbCl_3$) au produit décomposé. L'hétérojonction ainsi formée a d'excellentes caractéristiques de redressement et produit un bon effet photovoltaïque. Si l'on a besoin de surfaces réceptrices plus grandes, on peut, tout en conservant des caractéristiques photo-électriques satisfaisantes, diviser la couche d'oxyde stannique en sections pour réduire les contraintes entre le silicium et l'oxyde stannique. Cette technique permet une production à basse température si l'on compare avec les jonctions PN obtenue par diffusion. On espère donc qu'elle pourra être appliquée à la production continue de cellules solaires.

JRDC 986

Regularly-Rugged Electret (Back Electret)/293

Applied to audio components such as pick-up cartridge, headphone and microphone and detectors of touch switches, this electret device is composed of polymeric dielectric substance, surface of which is regularly rugged with a very large number of projections or concave holes, and its ruggedness keeps the surface resistance very high and the electrified voltage life very long. For example, a condenser type transducer with conductive layer 1 mm thick, dielectric layer 1 mm thick, projections 150 mm high, section diameter 0.1 mm and pitch 0.3 mm, fabricated with FEP Teflon, has seven-years electrified voltage life, that is, the half-life of the initial value at ordinary temperature of 25°C, in comparison with one year of the corresponding one without ruggedness.

JRDC 986

Électret à rugosité uniforme (électret arrière)/293

Employé dans divers éléments basse fréquence, notamment des têtes de lecture, des casques d'écoute, des microphones et des détecteurs de touche, cet électret est constitué d'un polymère diélectrique dont la surface est rendue uniformément rugueuse par un très grand nombre d'aspérités et de cavités. Sa rugosité lui donne une surface extrêmement résistante et lui permet de garder sa polarisation électrique très longtemps. Par exemple, un transducteur de type condensateur à couche conductrice de 1 mm d'épaisseur, à couche diélectrique de 1 mm d'épaisseur, à aspérités de 150 mm de hauteur, à diamètre de section de 0,1 mm et à écartement de 0,3 mm, fait de Téflon FEP, garde sa polarisation pendant sept ans, soit la moitié de la durée de polarisation de l'électret à la température ordinaire de 25°C. À titre de comparaison, le même électret, mais sans rugosités, garderait sa polarisation pendant un an.

JRDC 9810

AC Wave Switching Circuit Without DC Power Supply/293

This technology relates to an AC wave switching circuit for output control of an AC signal like a voice wave. The basic construction is as follows: a switching transistor is inserted in series in the circuit loop of an AC signal to be switched, and the switching is achieved by the voltage control of a control power source connected across the base-emitter path of the transistor. Advantages: no need of flowing a DC current across the collector-emitter path of a transistor means saving a DC power supply, resulting in a compact circuit and economy; if the switching circuit based on this technology is used for an LC resonance circuit or switching control of switches arranged in parallel, performance can be improved with neither the quality factor Q of the circuit nor the functions of the filter and resonance circuit, etc., used together being adversely affected.

JRDC 9810

Circuit commutateur d'onde alternative sans alimentation continue/293

Il s'agit d'un circuit commutateur d'onde c.a. permettant la commande de sortie d'un signal alternatif, par exemple un signal vocal. Un transistor de commutation est monté en série dans la boucle du signal c.a. à commuter, et la commutation s'effectue par commande de la tension d'une source d'alimentation branchée entre la base et l'émetteur du transistor. Avantages: aucun besoin d'un courant continu sur le trajet collecteur-émetteur d'un transistor, donc élimination d'un bloc d'alimentation c.c., réduction de l'encombrement du circuit, et économie; lorsque le circuit commutateur est utilisé pour commander un circuit résonant LC ou des interrupteurs montés en parallèle, amélioration du rendement sans altération du facteur de qualité Q ni des fonctions de filtrage et de résonance du circuit associé.

JRDC 9818

Negative-Phase-Sequence Current Meter/293

The equipment's dimensions are 106 mm (H), 200 mm (W) and 130 mm (D) and it weighs only 2.5 kg. The equipment is of the 2CT type and the current of a circuit to be measured is detected by means of a clip type center tap which can be easily attached or detached. Besides its ability to measure a very small portion of a negative-phase-sequence current by eliminating the higher harmonic current, its features include its small size, light weight, operation on either AC or DC (with built-in battery), provision of output terminal for a recorder, etc., and for improved measurement efficiency in the field. Advantages: improved work efficiency because of ability to function without disconnecting the circuit to be measured; no load on the current transformer of the circuit to be measured; free from the effect of higher harmonic current and high accuracy; the scale of the measuring instrument is 0.3/3 A—acuracy is 1%.

JRDC 9818

Ampèremètre de composante négative de phase/293

Dimensions: 106 mm (haut.), 200 mm (larg.) et 130 mm (prof.). Poids: seulement 2,5 kg. L'instrument est du type 2CT et peut mesurer l'intensité du courant dans un circuit à l'aide d'une prise médiane à pince pouvant se brancher et se débrancher facilement. Outre son aptitude à mesurer de très faibles échantillons de courants de composante négative de phase en supprimant les courants des harmoniques d'ordre supérieur, l'ampèremètre se caractérise par son encombrement réduit, son faible poids, la possibilité qu'il offre de sélectionner l'alimentation c.a. ou c.c. (piles incorporées), la présence d'une borne de sortie pour un enregistreur, etc.; tous ces facteurs contribuent à accroître son efficacité sur le terrain. Avantages: rendement amélioré du fait que les mesures peuvent se prendre sans débrancher le circuit contrôlé; aucune charge appliquée au transformateur d'intensité du circuit contrôlé; suppression des courants des harmoniques d'ordre supérieur et grande précision; erreur de justesse de l'échelle: 0,3/3 A, soit 1%.

JRDC 9820

Instantaneous Corrosion Rate Meter/293

Is an apparatus for measuring the corrosion rate of a metal by applying instantaneously a minute quantity of electric charge on its specimen immersed in water and analyzing the resultant response of electric potential. The meter is applicable to: (1) Rapid evaluation of corrosion resistance of metallic materials in various liquids. (2) Evaluation and selection of corrosion inhibitors. (3) Corrosion monitoring of cooling systems in various plants, such as control of inhibitor concentration, estimation of life of machinery and so on. (4) Estimation of anti-corrosive ability of primer coated on metals. (5) In situ measurement of rate and thickness of electroless plating. Advantages: measures in several milli-seconds to several seconds, works even in a liquid with high resistance such as deionized water, gives instantaneous digital display or corrosion rate by an automatic analysis with microcomputer.

JRDC 9820

Appareil de mesure instantanée de la corrosion/293

Appareil pour mesurer la vitesse de corrosion d'un métal en appliquant une faible quantité d'électricité sur le spécimen immergé et en analysant le potentiel électrique de la réponse. Usages: (1) évaluation rapide de la résistance à la corrosion de divers métaux dans divers liquides, (2) évaluation et sélection d'inhibiteurs de corrosion, (3) surveillance de la corrosion de systèmes de refroidissement dans les usines, par exemple en contrôlant la concentration d'inhibiteur, en estimation la durée de vie de la machinerie, etc., (4) estimation des qualités anticorrosives des revêtements de métaux, (5) mesure *in situ* de l'épaisseur et de la vitesse de dépôt dans le placage. Avantages: mesure en quelques millisecondes ou quelques secondes; utilisable même dans un liquide à forte résistance comme l'eau désionisée; affichage numérique instantané de la vitesse de corrosion, grâce à une analyse automatique par microprocesseur.

Petrochemicals — German Democratic Republic

The following developments cover petrochemical processes available for licensed production in Canada. For additional information or negotiations please write: Procurement and Sales Department, VEB Petrolchemisches Kombinat Schwedt, GDR-133 Schwedt with a copy to The Marketing and Development Department, GDR-Central License Office, Schicklerstr. 5-7, 102 Berlin. Also, please send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Matejki 1/5, Srodmiescle, Warsaw, Poland.

Procédés pétrochimiques — République démocratique d'Allemagne

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Refining

Distillation of Paraffinic Crude Oil With High Sulphur Content/293

The feedstock is paraffinic crude oil containing sulphur and asphalt to derive gaseous hydrocarbons, liquefied gas, components of gasoline, straight run gasoline, components of jet fuel, vacuum distillates, fuel oil, bitumen and components of diesel fuel.

Raffinage

Distillation de pétrole brut paraffinique à haute teneur en soufre/293

Process for Desulphurizing Diesel Fuels With High Sulphur Content/293

The feedstock is: Diesel fuel fractions within the boiling range 180-360°C with a sulphur content of 2 wt.-%. The feedstock is passed over a Ni-Mo catalyst supported on $A1_2 0_3$ at a pressure of 45 at. and at a temperature of 340-360°C. The LHSV is in the range from 4 to 7, and the gas/product ratio is in the range from 170 to 200 m^2/m^3.

The process assures an excellent hydrogenation of the compounds containing sulphur, nitrogen, and oxygen. The final products are: Refined diesel fuel; Sulphur 0.2 wt.-%; flash point 55-80°C; water 100-300 ppm; yield 97.5-98.5 wt.-%.

Procédé de désulfuration des combustibles diesel à haute teneur en soufre/293

Process for the Hydrorefining of Crude Oil Distillates (DESUS-Process)/293

The feedstock is: narrow and broad crude oil fractions with a high sulphur content within the range of middle distillates up to highboiling vacuum distillates of various origin, and hydrogenous recycle gas. The final product is: a raffinate with a sulphur content less than 0.2% in case of processing highboiling vacuum distillates; it is a raffinate with a sulphur content less than 0.1% in case of processing heavy middle distillates. Besides being used as a blend stock for the fuel oil production the raffinates produced by the DESUS-process are excellent feedstocks suited for Fluid Catalytic Cracking plants, especially due to their reduced metal content and increased aniline point. The advantages are: the DESUS-process is using an active and highly selective catalyst that is suited especially for the desulphurization of heavy crude oil fractions, and that assures long service periods. The technology and the catalyst have been carefully chosen in such a way that the desired degree of refining can be achieved with little expense. The extreme low pressure has to be mentioned. Even while processing heaviest products only a small amount of hydrogen is needed to reach outstanding high degrees of desulphurization.

Procédé d'hydroraffinage de distillats de pétrole brut (procédé DESUS)/293

Process for the Reforming of Gasoline Fractions/293

The process is distinguished by good flexibility feedstocks with a high boiling point, and with paraffine contents of more than 70 wt.-% can be processed and designed according to the specific requirements of each case of application. To achieve the required objectives the use of bi- and multimetal catalysts is optimized. The refining of the feedstock meets the requirements for the economical production of the raffinate qualities for the subsequent conversion over the sensitive catalysts. The process is an application of a modern technology with a well developed technical equipment.

Procédé de réformage des fractions d'essence/293

Process for the Production of Inert Gas/293

Procédé de production de gaz inertes/293

The feedstock is: gaseous fuels, e.g., propane, butane, natural gas, and residuel gases produced in refineries as well as in gas processing plants as by-products or waste-products. The final product has N_2 + Ar, 99.5–99.7 vol.-%; O_2, 0.3–0.5 vol.-%; CO, 10 ppm; CO_2, 1 ppm; NO_2, 10 ppm.

Petrochemistry

Pétrochimie

Process for the Production of Sodium Cyanide/293

Procédé de production de cyanure de sodium/293

The feedstock is: caustic soda and hydrogen cyanide. The final product quality is: Sodium cyanide, min. 98.9 wt.-%; Sodium formiate, max. 1.0 wt.-%; Water, max. 0.2 wt.-%; Others, max. 0.9 wt.-%; Colour, white; State, solid; Density, 1.59 g/cm³. With this process 4,000 tons of sodium cyanide can be reduced in 8,000 hours operation. NaCN is produced from NaOH and HCN by neutralization under slightly reduced pressure. The process consists of the following stages: neutralization; evaporation under reduced pressure and condensation system; centrifuging; drying; confectioning.

Process for the Production of Benzene by Extractive Distillation Using Dimethylformamide (DISTEX-Process)/293

Procédé de production de benzène par distillation extractive au moyen de diméthylformamide (procédé DISTEX)/293

The feedstock is: Refined gasolines and pyrolysis gasolines with high benzene content. The quality of the final product is: Density at 20°C, 0.878 g/cm³; Solidification point, 5.4°C; Bromine consumption, 0.05 g of bromine 100 ml. The equipment for this process consists essentially of the extractive distillation column, the stripper column, and the column for solvent recovery supplemented by the necessary heat exchangers, vessels, and pumps. Depending on the requirements to feedstock and final product eventually a primary column for feed distillation, a benzene column for dewatering, and installations for the washing of the extracted gasoline might become necessary, again to be completed with heat exchangers, vessels, and pumps. Due to the application of dimethylformamide as a solvent this process has a number of advantages compared with traditional extractive distillation processed: low corrosivity; high selectivity; high stability under operation conditions; technical availability; low solidification point (-55°C), and favourable physiologic properties of the dimethylformamide.

Process for the Recovery of Aromatic Hydrocarbons (C_6-C_9) from Hydrocarbon Mixtures (AREX-Process)/293

Procédé de récupération d'hydrocarbures aromatiques (C_6-C_9) dans des mélanges d'hydrocarbures (procédé AREX)/293

The feedstock is: gasolines of catalytic reforming, hydrogenated pyrolysis gasolines, and gasolines of oil gasification processes. The qualities of the final products are: Benzene, toluene, C_8-aromatics, C_9-aromatics, as well as non-aromatic compounds with extreme low content of aromatics. The process for the isolation of aromatic hydrocarbons by liquid-liquid extraction is highly flexible due to the possible use of various feedstocks. Variability of the extracting mixture allows optimal adaption of the extractive properties to the feedstock. Advantages: extraction at atmospheric pressure; low extraction temperature; use of carbon steel; special devices not required; no necessity of final purification by clay-treatment; no process water and waste water problems.

Process for the Catalytic Isomerization of C_8-Aromatics (ARIS-Process)/293

Procédé d'isomérisation catalytique des aromatiques C_8 (procédé ARIS)/293

The isomerization process of C_8-aromatics is a process stage for producing p- and/or o-xylene to overcome discrepancies between the distribution of isomeric C_8-aromatics in various feedstocks, and to meet the demand of these petrochemical raw materials. Various feedstocks are: C_8-aromatics mixtures of high purity produced from reformed gasoline and pyrolysis gasoline; C_8-aromatics concentrates produced by distillation with different content of aliphatic hydrocarbons; C_8-aromatics mixtures produced by disproportionation and transalkylation processes; reformed gasolines produced at different reforming severity. The main product is a C_8-aromatics mixture in which the thermodynamically possible equilibrium concentrations for the xylene isomers amount to 95–99%. The close approach to thermodynamic equilibrium for the xylene isomers, the selective conversion of the ethylbenzene, and the decomposition of the aliphatic compounds ensure a high degree of efficiency in the separation processes. By using this process with non-extracted C_8-aromatics mixtures as feedstock, special advantages will be achieved thanks to a reduction of the amount of apparatus and energy necessary for feedstock production; the decomposition of the aliphatic hydrocarbons to compounds of the C_3/C_4 range at the isomerization catalyst. Further remark-

able advantages are: longer operation periods between regeneration cycles; high flexibility of process control by control of catalyst activity; lowered reaction pressure; reduced H_2/C_8-ratio; higher liquid product load; lower specific feed consumption; smaller plant size. The process has been used since 1976 at PCK Schwedt with a high-quality Leuna catalyst.

Process for the Purification of Acetonitrile/293

Procédé de purification de l'acétonitrile/293

The feedstock is: Water containing crude acetonitrile obtained as a by-product in the ACN-process with the following quality: Appearance, colourless; state, liquid; density at 20°C, g/ml, 0.775 to 0.800; boiling point, °C, 81.5 to 82.5.

	Guaranteed values	Average values
ACN, ppm	< 300	50
HCN, ppm	< 100	70
H_2O, wt.-%	< 0.3	0.15
Cu, ppm	< 0.5	0.05
Fe, ppm	< 0.5	0.1

Technological Improvements in the Production of Synthetic Gas and Calcium Ammonium Nitrate/293

Améliorations techniques de la production de gaz synthétiques et de nitrate d'azote calcium/293

Process for the methanization of gas mixtures containing CO and CO_2; process for the improvement of grain distribution during the production of calcium ammonium nitrate; process for the improvement of the gravity flow of calcium ammonium nitrate; support for the stabilization of heat exchanger tubes against lateral vibrations; process and device for the intensive degasification of charged solvents.

Process for the Purification of Aromatic Hydrocarbons/293

Procédé de purification des hydrocarbures aromatiques/293

This process is applicable, where aromatics are produced by catalytic and thermal conversion of hydrocarbons and separated by a separation process from an aromatics-nonaromatics mixture.

Method for the Determination of Aromatic Mono- and Dicarboxylic Acids/293

Méthode de détermination des acides aromatiques mono- et dicarboxyliques/293

This method serves particularly for the determination of ppm-amounts of acid impurities in highest grade terephthalic acids. Benzoic acid, phenylacetic acid, o-toluic acid. m-toluic acid, p-toluic acid. 2- and 4-carboxy-benzenecarbonal, phthalic acid, hexahydroterephthalic acid and isophthalic acid can be determined separately or in parallel.

Process for the Processing of Streams Containing Acrylonitrile/293

Procédé de traitement des effluents contenant de l'acrylonitrile/293

Advantages in comparison with known processes: reduction of the residence time of ACN, HCN and acrolein in the column; decrease of the temperatures in the system; nearly complete elimination of undesirable by-products in the system originating, e.g., of ACN plus HCN or of ACN plus NH_3; avoiding the formation of polymers and sludge in the system; increase of the service life of the column; increase of the yield by 3 to 5% ACN by decreasing processing losses.

Reactivation of Noble Metal Catalysts/293

Réactivation des métaux nobles employés comme catalyseurs/293

The reactivation of noble metal catalysts is possible by the use of 2 different methods, depending on the kind of catalyst used and the degree of damage. In case of the catalyst being damaged by recrystallization of the platinum grains as well as alkali poisoning the wet procedure is recommended. The dry procedure is to be applied if the acidity of the catalyst exceeds a certain value. Both are approved methods and guarantee complete reactivation of the catalysts. The original service life is restored also. Cost is low compared to the price of catalysts.

Process for the Removal of Polymer Forming Agents and Polymers from Glycols/293

Procédé d'extraction des polymères et des agents de polymérisation des glycols/293

By this process, in a simple and advantageous way the polymer content of the glycol recycle can be reduced so far as to avoid polymer deposits. Down-time caused by polymer deposits in ethylene plants as well as the disadvantages of other usual processes - both causing high economical losses - can be safely avoided.

Lubricants

Lubrifiants

Fluid FWS 30 for Machining/293

Fluide d'usinage FWS 30/293

The feedstocks is: inorganic substances, organic solutizers, product of saponification. The final product is produced by mixing processes in the variants: solid concentrate and liquid homogeneous concentrate. Advantages: increased cutting speed and feed as well as prolonged service life of the tools up to 250% compared to the usual emulsions - depending on the kind of machining process; better quality of machined surfaces; physiological harmlessness; no waste water problems.

Process for the Production of Refrigerator Oils, Thermal Fluids and Other Special Purpose Oils Based on Alkyl Aromatics/293

Procédé de production d'huiles pour réfrigérateurs, de fluides caloriporteurs et d'autres huiles spécialisées à base d'aromatiques alcoyles/293

The process has the following advantages: (1) Refrigerator oil XK 27 High lubricity at all service temperatures; thermal and chemical stability; excellent mixing behaviour; good low temperature flowability; non-corrosive; neutral behaviour to the refrigerant; neutral behaviour to the materials of the refrigerating system. (2) Thermal fluids XW 15 and XW 27 good thermal stability; good properties of heat conductivity; high initial boiling point; excellent low temperature properties; low viscosity within the whole temperature range; neutral to instrument materials; not dangerous to health and almost odourless.

Bitumen

Bitume

Process for the Production of an Extra-Stable Bituminous Emulsion for Agriculture/293

Procédé de production d'une émulsion bitumineuse ultrastable destinée à l'agriculture/293

The extra-stable emulsion with nonionic appearance for agriculture is produced from bitumen 200 and an aqueous alkali solution of an emulsifying agent. It has a bitumen content of at least 55% and is mixable with water at any chosen ratio and can subsequently be mixed with other auxiliaries such as fertilizers, plant protective, antifreeze agents and other substances. The stability of the bituminous emulsion is regulated in such a way that it can be mixed, stored, shipped, transported and used without any danger of decomposing. It can be used as a synthetic soil improvement agent in agriculture and horticulture without any objection from the physiological point of view.

Bituminous Emulsions, Buildifol, Buildiflex, Builditect, Arbisit, Secotan, Varimuls and Buildivar/293

Émulsions bitumineuses, Buildifol, Buildiflex, Builditect, Arbisit, Secotan, Varimuls et Buildivar/293

The feedstocks are bitumen, water, emulsifying agent, elastomer and plastomer dispersants. In its quality the emulsions meet all requirements of building protection and agriculture.

Process for the Production of an Unstable Bituminous Emulsion for Road building/293

Procédé de production d'une émulsion bitumineuse instable destinée à la construction routière/293

Unstable bituminous emulsions are used with success, particularly for repair and maintenance of covering layers, whereby the bituminous emulsion is sprayed on to the road surface, a gravel layer is applied and rolled in. Depending on the desired range of application the extra-stable bituminous emulsion containing at least 55% bitumen can be modified at will with regard to its stability, viscosity, pH-range etc.

Microbiology

Process for the Production of High-grade Feed-Yeast from Crude Oil Distillates/293

The feedstocks are: straight-run crude oil distillates of the boiling range 240 to 360°C; nutrient salts and trace elements. The qualities of the final product are: high-class feed-yeast fermosin with the following characteristics: Crude protein content above 60% lysine content above 6.5%; sulphureous amino acids above 2.0%; purified deparaffinized crude oil distillate (particularly suited as diesel fuel component) lowering the pour-point by 10 to 40°C; Biolipid extract. This extract contains fatty acids, phosphatides, glycerides, sterols, waxes and other high-grade substances which can be used as a substitute for animal and vegetable fats for technical purposes, as well as in other industrial fields. Advantages of Process: continuously operated for protein synthesis with simultaneous production of crude oil distillate with improved low temperature properties; availability of substantial feedstocks (crude oil distillate fraction within the boiling range 240 to 360°C; production independent of climate and season.

Microbiologie

Procédé de production d'une levure d'alimentation de haute qualité à partir de distillats de pétrole brut/293

STORAGE AND TRANSPORT OF CRUDE OIL AND CRUDE OIL PRODUCTS

STOCKAGE ET TRANSPORT DE PÉTROLE BRUT ET DE PRODUITS DE PÉTROLE BRUT

Process for the Storage of Ethylene in Geological Caverns/293

Advantages of cavern storage: less aboveground areas required; high storage safety; little demand for civil and erection capacity; good possibilities of extension at low cost; considerable savings of investment and operating cost. Process characteristics — (1) Storage capacity: 20,000 to 50,000 t, depending on the number of caverns and the operating regime of the inter-connecting system producer - pipeline - consumer. (2) Charging speed: 5 to 24 t/h^{-1} per cavern at 30°C of ethylene temperature. (3) Discharging speed: 5 to 20 t/h^{-1} from one cavern. Charging pressure: maximum 90 bars. (4) Quality: during storage the quality of the ethylene remains unchanged. Residual water content is limited to 10 wt.-ppm H_2O.

Procédé de stockage d'éthylène dans des cavernes géologiques/293

Process for the Storage of Highly Viscous Fuel Oil in Geological Caverns/293

Advantages of this storage method compared with insulated and heated steel tanks are: less use of agricultural area; high storage safety; less demand for civil and erection capacity; enormous savings of steel; considerable savings of investment and operating cost; little demand of heating energy due to geothermal conditions.

Procédé de stockage de fuel-oil très visqueux dans des cavernes géologiques/293

Process for the Transport of Highly Viscous Crude Oils/293

This process makes it possible to transport by pipeline crude oils, that could not so far be transported that way on account of their density and viscosity.

Procédé de transport d'huiles brutes très visqueuses/293

Densimeter for Crude Oil and Liquid Crude Oil Products/293

Advantages: the device works independent of outside temperature. The device is installed in a by-pass immediately on the pipeline. The device needs very little maintenance. The measurements are highly accurate, independent of the degree of contamination of the crude oil.

Densimètre pour pétrole brut et produits liquides de pétrole brut/293

AUTOMATION AND CONTROL

AUTOMATION ET RÉGULATION

System for Optimizing the Control of Crude Oil Units/293

The control system fulfills the following objectives: Calculation of actual product qualities for evaluating the plant conditions independent of measured values; Setting of the most important process parameters to assure an optimum

Système d'optimisation de la régulation des unités de traitement des huiles brutes/293

and "in-spec" assortment of products in case of a modification of process conditions such as feedstock quality, throughput, quantity and quality requirements; Control of product qualities and of selected thermal values for the stabilization of the preset optimum process state. By these means the following advantages are achieved: Optimization with respect to any desired product minimizing simultaneously the energy and utilities consumption by using a special objective function; Stabilization of the plant operation and secure mastering of the dynamic process behaviour to achieve even product qualities; Decrease of setting times in case of changed objectives; The process control is considerably improved by furnishing non-measurable characteristics of the column or the products like column load and product boiling curves; Output of the actual and predicted product qualities. By this way it is possible to reduce the number of analyses and automatic process analysers will not be needed.

Process Control of Ammonia Plants/293

Régulation de procédé pour usines d'ammoniac/293

This method is used for closed loop process control of ammonia plants using the steam reforming process for the make-up gas production. Optionally one of the two objective functions can be chosen: "maximum ammonia production" or "maximum profit". The following tasks are performed: optimum use of feed supply; coupled control of the hydrogen/nitrogen-ratio in the synthesis loop and of the temperature regime in the reformer complex; optimization and control of the temperature profile in the ammonia synthesis converter. Limitations of equipment and process are automatically observed. The main advantages of the proposed method are: prolonged service life of the expensive primary reformer and ammonia synthesis converter on account of smoother operation; increased production as a result of increased conversion; use of the cheapest raw materials available.

Control of Tubular Reactors in Accordance with the Temperature Profile/293

Régulation de réacteurs tubulaires en fonction de leur profil thermique/293

The method is used for the closed loop control of fixed bed tubular reactors with internal heat exchange that are used for the synthesis of ammonia and of higher alcohols and for other purposes. It is the objective of the closed loop control system to maximize the conversion and to stabilize the temperature profile in the best possible way. The following tasks are performed: calculation of "state measures" for the temperature profile based on separately measured temperatures and control of these "state measures" by means of a multidimensional control system; calculation of optimum setpoints for the "state measures" taking into account the measured operation conditions. Limitations of equipment and process are observed automatically. In addition to the increased conversion ratio there are decreased sensitivity to changes of the operation conditions and less severe operating conditions of the catalyst.

FORTRAN-Program-System for Non-linear Programming/293

Logiciel FORTRAN pour programmation non linéaire/293

The program system can be applied to solve the following general problems: non-linear programming without constrictions; non-linear programming with restrictions; non-linear regression (parameter estimation for non-linear models based on measured values). Thus the program system represents a tool for analysis, design and control of process plants. Starting from the best known methods published in international special literature seven subroutines (with a high degree of compatability) were made up. They provide some special approaches to obtain high effectivity and comply with the user's demand for secure operation and simple application.

Environment pollution control

Lutte antipollution

Processes and Devices for Pumping off Liquids Having a Lower Density Than Water/293

Procédés et dispositifs de pompage de liquides plus légers que l'eau/293

When fighting ground water pollution, particularly those caused by mineral oils, difficulties are generally encountered with customary pump sets. A device which is relatively simple to operate was developed for the detection of ground water pollution. With this device it is possible to ascertain and control the boundaries of larger polluted ground water areas and to supervise them permanently without any mentionable financial and material expense.

Process for the Treatment of Acid Sludge/293

Procédé de raffinage contrôlé de l'acide sulfurique/293

Process has the following advantages: avoids environment pollution by rinsing or depositing acid sludge; uses a low cost and available solvent.

Process for controlled sulphuric acid refining/293

Process has the following advantages: avoids output of acid sludge; increases oil yield by about 5% compared with traditional technology; produces marketable byproducts such as diluted sulphuric acid (40-70%) and resin component; decreases residence time in the refining process.

Procédé de traitement des boues acides/293

Process for the biological treatment of waste water with nitrile and cyanide content/293

By application of this process the cost of waste water treatment - depending on actual conditions - can be brought down to 50% of the cost of usual thermal waste water treatment. Compared with other biological processes there are advantages by relinquishing the cultivation and the use of adapted pure cultures as well as sterile conditions.

Procédé de traitement biologique des eaux usées contenant du nitrile et du cyanure/293

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