new products bulletin

bulletin de produits nouveaux

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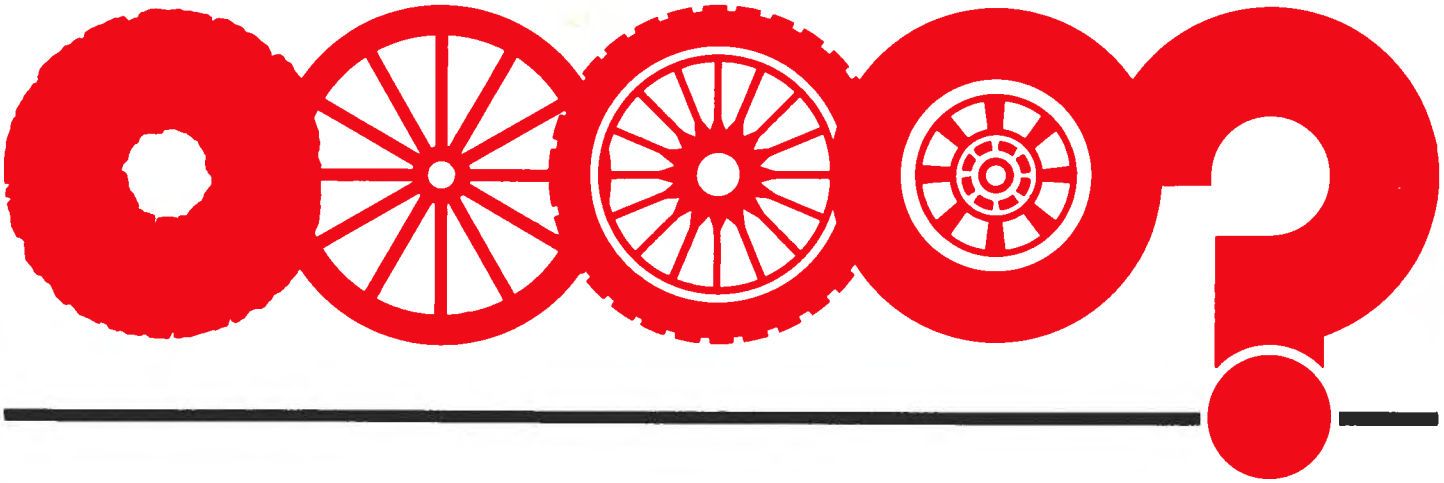


new products bulletin

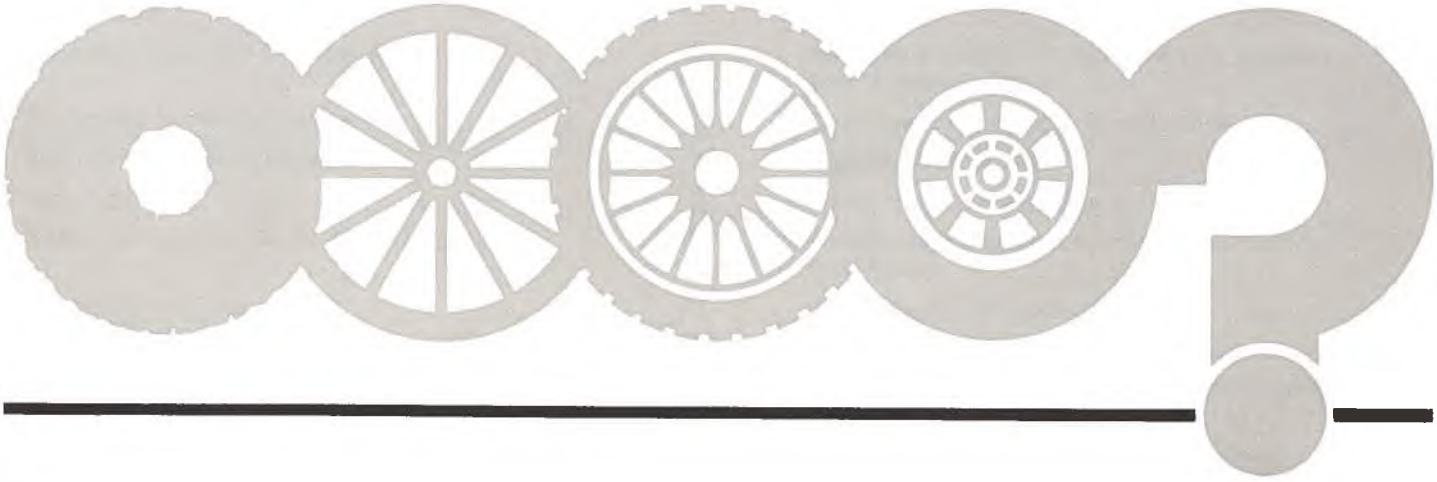
bulletin de produits nouveaux

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.



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Selected Licensing or Joint Venture Manufacturing Opportunities

Microbiological Process for Producing a Protein-Vitamin Concentrate from Fats/311

Hungarian state licensing organization offers a Canadian company a process developed by the Central Food Research Institute for the microbiological conversion of fats superfluous for nutritive purposes. Fats are converted with the aid of yeasts to proteins of biological value, under the simultaneous formation of valuable vitamins and other utilizable cell substances. The product obtained in this way is suitable in dried form as a protein-vitamin concentrate for direct human consumption or for foddering purposes, i.e., completing food and produce of an unsuitable amino acid composition, producing preparations (sauces, powders, etc.) for complementing food, manufacturing diet food and products rich in vitamin B and protein, and for complementing animal fodder concentrates. Advantages: animal or vegetable fat is used without any preparation as energy source; micro-organisms are employed which are capable, after adaptation, of producing cell material usable for direct human consumption; high (50 per cent of the dry substance) protein content, of which 80-90 per cent is digestible; abundance in essential amino acids, similar in quality to animal proteins; yeasts are particularly rich in members of the vitamin B group, and contain substantial quantities of other vitamins (provitamin A, vitamin E, C). A pilot plant is operating. Patents are granted and pending in several countries. Code number 3021. Write: Novex Co. Ltd., P.O. Box 62, H-1364 Budapest, Hungary and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Budakeszi ut 55/dP/8, 1021 Budapest, Hungary.

Well Screens and Accessories/311

American manufacturer of screens or liners for installation in water, oil and gas wells or pump sections as well as in sand separators offers a Canadian company the manufacturing, marketing and some export rights to its "SISCO" screens. The screens are expanded from general well casing with no reduction in wall thickness or original strength; are perfectly round and straight with slots expanded from rigid pipe rather than rolled sheets; are made in practical lengths of 1.524 m or 3.048 m; can be used singly or in combination and can be designed for installation by welding or with conventional couplings. The licensor will sell sufficient tube slotting machines to meet licensee's market demands (at a cost of approximately $260,000.00 each) for a machine manufacturing 152.4mm, 203.2mm, 254.0mm and 304.8mm screens; make technical

Sélection d'occasions de fabrication sous licence ou d'entreprises en participation

Méthode microbiologique pour fabriquer un concentré protéique vitaminé à partir de graisses/311

L'Office hongrois des licences offre à une compagnie canadienne la fabrication, la mise en marché et l'exportation sous licences d'une méthode mise au point par l'Institut central de recherches alimentaires, en vue de transformer microbiologiquement en aliments utilisables les surplus de graisses non utilisés. Les graisses sont transformées à l'aide de ferments en protéines biologiquement utiles; il y a parallèlement formation de vitamines utiles et d'autres substances cellulaires utilisables. Le produit ainsi obtenu peut être utilisé à l'état sec comme concentré protéique vitaminé additionné aux aliments destinés à la consommation humaine et comme additif des fourrages, p. ex. suppléments d'aliments et de produits végétaux présentant une teneur insuffisante en acides aminés, préparations (sauces, poudres, etc.) servies avec les aliments, aliments diététiques et produits riches en vitamine B et en protéines, et suppléments des concentrés alimentaires pour les animaux. Avantages: transformation de graisses animales et végétales sans aucune dépense énergétique; utilisation de micro-organismes pouvant produire, après adaptation, des substances cellulaires directement utilisables comme aliments par l'homme; teneur élevée en protéines (50%, masse sèche), dont 80-90% sont assimilables; teneur très élevée en acides aminés essentiels qualitativement semblables aux protéines animales; les ferments contiennent beaucoup de membres du groupe de la vitamine B, ainsi que des quantités notables d'autres vitamines (provitamine A, vitamines E et C). Cette méthode est présentement en cours d'exploitation dans une usine pilote. Il y a eu demande et octroi de brevets dans plusieurs pays. Numéro de code 3021. Écrire à: Novex Co. Ltd., C.P. 62, H-1364 Budapest (Hongrie) et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, Budakeszi ut 55/dP/8, 1021 Budapest (Hongrie).

Filtres et accessoires pour puits/311

Un fabricant américain de filtres et de revêtements pour puits d'eau, de pétrole et de gaz, ainsi que pour pompes et séparateurs de sable souhaite céder à une compagnie canadienne ses droits de fabrication et certains droits d'exportation des filtres "SISCO". Les filtres, fabriqués à partir de sections de tubage sans perte d'épaisseur ni de robustesse, sont parfaitement ronds et droits parce que les fentes sont exécutées par repoussage de la paroi dans un tuyau rigide plutôt que dans une feuille enroulée. Ils sont livrables en longueurs de 1,524 m et de 3,048 m, peuvent être utilisés seuls ou bout à bout et se fixent l'un à l'autre par des soudures ou des raccords ordinaires. L'inventeur fournira à l'acquéreur des droits un nombre suffisant de machines servant à exécuter les fentes pour lui permettre de répondre à la demande du marché (au coût

and marketing assistance available in groundwater development; provide other technical assistance and training programs. (See illustration page 41.) Write: Mr. M.O. Salvador, President, Sisco, Inc., P.O. Box 844, Lake City, South Carolina 29560 and send a copy of your initial correspondence to Canadian Consulate General, 900 Coastal States Building, 260 Peachtree Street, Atlanta, Georgia 30303, U.S.A.

approximatif de $260 000 pour une machine pouvant fabriquer des filtres des diamètres suivants: 152,4 mm, 203,2 mm, 254,0 mm et 304,8 mm. Il lui apportera également une aide technique et une aide au plan de la commercialisation dans le domaine de la mise en valeur des eaux souterraines, et mettra à sa disposition d'autres formes d'aide technique ainsi que des programmes de formation. (Voir l'illustration page 41.) Écrire à: M. M. O. Salvador, Président, Sisco Inc., P.O. Box 844, Lake City (Caroline du Sud) 29560 et faire parvenir une copie de votre correspondance initiale au Canadian Consulate General, 900 Coastal States Building, 260 Peachtree Street, Atlanta (Georgie) 30303.

Vibrating-Reed Pulsating Element/311

Hungarian state licensing organization offers a Canadian company a new process of intensification of contacting phases by introducing a new vibrating-reed pulsating element which is capable of producing elastic deformation under the influence of the media flowing through it. Available for licensing, the system is patented in 18 countries and patents are applied for in an additional 8 countries. The members of the element perform an oscillating motion during the operation and due to this the dimensions of gaps available for the material transmission flexibly vary in function of the load so that the turbulence increases. The transmitting gap is thus able to adjust itself to the varying operating conditions. The developed oscillating motion stimulates the processes and increases their efficiency. Used in distillation-rectification, heat transfer, absorption-chemisorption, wet washing, deodorization and cleaning of stack gases, this system has good hydrodynamic properties, wide loading limits, good oxygen absorbing properties, etc. Code number 6067. Write: Novex Co. Ltd., P.O. Box 62, H-1364 Budapest, Hungary and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Budakeszi ut 55/dP/8, 1021 Budapest, Hungary.

Élément oscillant à lames vibrantes/311

L'Office hongrois des licences offre à une compagnie canadienne la fabrication, la mise en marché et l'exportation sous licences d'un nouvel élément, capable d'engendrer des déformations élastiques sous l'action de la substance qui le traverse, entraîne l'intensification des phases de contact. Ce dispositif, pouvant être fabriqué sous licence, est breveté dans 18 pays et est en voie de l'être dans 8 autres. Les composants de l'élément fonctionnent en oscillant de façon que la taille des ouvertures destinées à l'écoulement des matériaux puisse varier en fonction de la charge afin d'accroître les turbulences. Les ouvertures peuvent ainsi s'adapter automatiquement aux conditions de fonctionnement. L'oscillation engendrée stimule l'action du procédé en cours et en augmente l'efficacité. Ce dispositif qui démontre des propriétés hydrodynamiques convenables, des limites de charge étendues et une bonne capacité d'absorption de l'oxygène, peut être utilisé en distillation-rectification, pour l'échange de chaleur, dans les procédés d'absorption et d'adsorption chimique, dans le lavage par voie humide, pour l'élimination des odeurs et l'épuration des gaz brûlés. Numéro de code 6067. Écrire à: Novex Co. Ltd., C.P. 62, H-1364 Budapest (Hongrie) et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, Budakeszi ut 55/dP/8, 1021 Budapest (Hongrie).

Strippable Polyethylene Adhesive Film/311

French company offers manufacturing and marketing rights to its strippable polyethylene adhesive film which is used as a temporary protective coating on plastic sheets, automotive parts, metal cladding, metal furniture, decorative laminates, etc. Write: Mr. Daniel Mayer, Export Manager, Proplan S.A., 4-6 Victor Faugier, 38200 Vienne, France and send a copy of your original correspondence to the Commercial Division, Canadian Embassy, 35 avenue Montaigne, 75008 Paris, France.

Film adhésif de polyéthylène de protection temporaire/311

Une société française offre les droits de fabrication et de commercialisation d'un film adhésif de polyéthylène de protection temporaire pour matières plastiques, pièces d'automobile, revêtement métallique, mobilier métallique, stratifiés décoratifs, etc. Écrire à: M. Daniel Mayer, directeur des exportations, Proplan S.A., 4-6, rue Victor Faugier, 38200 Vienne (France) et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, 35, avenue Montaigne, 75008 Paris (France).

Variable Frequency Static Converters/311

Swiss manufacture offers a Canadian company the exclusive or non-exclusive manufacturing rights and non-exclusive marketing rights on its variable frequency static converter for the control of synchronous and asynchronous motors. The use of a unique (patented) conduction extinc-

Convertisseurs statiques à fréquence variable/311

Un fabricant suisse offre à une compagnie le droit de fabrication exclusif ou non exclusif et le droit de vente non exclusif de son convertisseur statique à fréquence variable pour la commande de moteurs synchrones et asynchrones. Un circuit d'extinction unique (breveté) pour tous les thyris-

tion circuit for all the thyristors decreases the complexity, the size and the cost of the equipment and increases its efficiency. Greater flexibility and strength are achieved through the use of both power transistors and thyristors. The converters operate in an extended frequency range (0 to 1600 Hz), power from 1 to 30 kVA, three-phase output, 220 or 380 V supply (other voltages available). They are used in high speed (up to 90,000 r.p.m.) drilling and grinding, centrifugal machines and in machine tools, textiles, pumps, ventilators, winders, printing, chemistry and synthetic fibers. Patents were granted in ten countries, some as early as 1967 with later improvement patents. The transfer of a manufacturing file and know-how is available. (See illustration page 41.) Write: Mr. W.G. Schwager, Sales Manager, Marcel Etter, électronique industrielle, 3, bis chemin des Pontets, 1212 Grand-Lancy, Genève, Suisse and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Kirchenfeldstrasse 88, 3005 Berne, Switzerland.

tors apporte une simplification (diminution du coût), une diminution du volume et augmente l'efficacité de l'appareil. L'utilisation conjointe de transistors de puissance et de thyristors donne une grande souplesse et robustesse. Large gamme de fréquence (0 à 1 600 Hz), puissances de 1 à 30 kVA, sorties triphasées, tensions d'alimentation 220 ou 380 volts (autres tensions possibles). Ils sont utilisés pour le perçage et le rectifiage à haute vitesse (jusqu'à 90 000 tr/min), les centrifugeuses, les machines outils, les textiles, les pompes, les ventilateurs, les enrouleurs, en imprimerie, en chimie et pour les fibres synthétiques. Des brevets ont été délivrés dans dix pays, quelques-uns dès 1967, et comprennent des brevets couvrant des améliorations. La remise d'un dossier de fabrication est normalement incluse. (Voir l'illustration page 41.) Écrire à: M. W.G. Schwager, gérant des ventes, Marcel Etter, électronique industrielle, 3 bis, chemin des Pontets, 1212 Grand-Lancy, Genève (Suisse) et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, Kirchenfeldstrasse 88, 3005 Berne (Suisse).

Containers/311

American company offers the Canadian licensing rights in Canada for the production and sale of its fibreglass and polyurethane insulated containers used in the protection of frozen and perishable foods in transit. The containers are light weight, easy to handle and stack, durable and reusable. They are available in a number of models, dimensions and capacities. The containers have been used by major U.S. companies such as Stouffers and General Mills to ship sample food and dairy products overseas. The firm will furnish designs, specifications, manufacturing technology and advertising and marketing assistance. The following lines are available: Large M-Line — for pallet, caster, or lift truck operation, capacities from .39m^3 to 2.1m^3; Small M-Line — for smaller unit volume where sanitation is important, capacities from .0675m^3 to .33m^3; RP-Line — foamed-in urethane insulation, capacities .0675m^3 to .33m^3 and used where cleaning is less important than cost and dead weight; P-Line — the RP-Line without the extra reinforcement, capacities .0675m^3 to .33m^3; The RP-line will pay for itself in rough warehouse use; F-Line — fiberglass insulation coated with corrugated plastic for the outer and inner container and used where cost and light weight are of prime importance. Frigi-Tops and Frigi-Pack — The patented Frigi-Top and Frigi-Pack add additional cooling power to container usage and are especially helpful in maintaining dairy temperatures for 8 to 12 hours. Choices depend upon the relative importance of durability, price, weight, and capacity — all lines can be depended upon for insulation efficiency. (See illustration page 41.) Write: Mr. Edward Cornish, President, Cornish Containers, Inc., 205 West Sophia Street, Maumee, Ohio 43537 and send a copy of your initial correspondence to Canadian Consulate, Illuminating Building, 55 Public Square, Cleveland, Ohio 44113, U.S.A.

Contenants/311

Une société américaine offre les droits de fabrication et de vente au Canada de ses contenants isolés en laine de verre et en polyuréthane conçus pour l'expédition de produits congelés et d'aliments périssables. Les contenants sont légers, faciles à manipuler et à empiler, durables et réutilisables. Ils sont livrables en plusieurs modèles de tailles et de capacités variées. Ils ont été utilisés par de grandes compagnies américaines comme la Stouffers et la General Mills pour l'expédition outre-mer d'échantillons d'aliments et de produits laitiers. L'entreprise est prête à fournir les plans, les caractéristiques ainsi que la technologie à l'acquéreur et à lui apporter son aide en matière de publicité et de commercialisation. Le produit est livrable en plusieurs modèles; ce sont les suivants: Modèle M — gros contenants (éléments pour palette, éléments montés sur patins métalliques et éléments sur roulettes — capacité: de 0,39 m^3 à 2,1 m^3. Modèles M — petits contenants (volume restreint, contenant satisfaisant à des normes d'hygiène strictes — capacité: de 0,0675 m^3 à 0,33 m^3. Modèles RP (isolés avec de la mousse d'uréthane — capacité: de 0,0675 m^3 à 0,33 m^3, lorsque la facilité de nettoyage importe moins que les coûts et le poids. Modèle P (il s'agit du contenant de type RP sans renfort — Capacité: de 0,0675 m^3 à 0,33 m^3. Les contenants de type RP s'amortissent rapidement en raison de leur robustesse. Contenants de type F (isolés en laine de verre recouverte de parois en plastique ondulé à l'intérieur et à l'extérieur — coûts abordables et légèreté. FRIGI-TOPS ET FRIGI-PACK — Les éléments Frigi-Tops et Frigi-Pack refroidissent le contenant et maintiennent de 8 à 12 heures une température convenant à l'expédition de produits laitiers. Le choix d'un type de contenant dépend de l'importance accordée à la durabilité, au prix, au poids et au volume; tous les contenants sont très bien isolés. (Voir l'illustration page 41.) Écrire à: M. Edward Cornish, Président, Cornish Containers, Inc., 205 West Sophia Street, Maumee, Ohio 43537 et faire parvenir une copie de votre correspondance initiale au Consulat du Canada, Illuminating Building, 55 Public Square, Cleveland, Ohio 44113 (É.-U.).

Chipburning Unit/311

Swedish company offers the Canadian manufacturing and marketing rights to its chipburning unit consisting of a

Conditionneur de copeaux/311

Une entreprise suédoise offre les droits de fabrication et de mise en marché, au Canada, de son conditionneur de

chip container which feeds a prechamber oven. A stirring wheel, connected to a screw, feeds the oven with wood chips. Used with a central heating furnace in private homes, garages and small factories, the unit is automatically controlled by the furnace thermostat. A wide range of wood fuel can be used; from sawdust to wood chips — from green whole tree chips to dry hard chips. The unit is so constructed that the heat does not fluctuate. The unit measures 2000 mm in length, 1050 mm in width and the height is 1000 mm. The chip container holds 800-1300 litres but can be connected to a larger silo. The licensor will assist with drawings, technical know-how and sales literature. (See illustration page 41.) Write: AB Linjetjänst, Box 4, S-777 00 Smedjebacken, Sweden and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, P.O. Box 16129, S-103 23 Stockholm 16, Sweden.

Vehicular Power Conversion Kit/311

American engineering company offers a Canadian company the manufacturing and Western Hemisphere marketing rights to "PRO-POWER" conversion kits designed to allow vehicular and industrial internal combustion engines to use compressed natural gas (CNG), propane (LPG) or butane as a fuel source, either as the sole fuel source or as an option to gasoline. It is suitable for most types of engines, except those which use diesel as a fuel. Advantages of the product: the Pro-Power system can be easily installed by persons with basic mechanical knowledge. It is designed to give service for at least 80.000 km, requiring only replacement of an inexpensive diaphragm after that time. Propane as a fuel is more economical than gasoline. The American company will 1) license the use of the registered trade-style Pro-Power; 2) sell the rights to manufacture, distribute, use and develop the Pro-Power system; 3) supply the buyer with production blueprints of the complete system as well as production patterns (permanent molds) of the exclusive Pro-Power vaporizer regulator; 4) if required, provide a list of independent sources for all parts and materials used in manufacture not made in-house (e.g., valves and diaphragm material); 5) arrange negotiations with a distributor based in Los Angeles, California for the American market. (See illustration page 41.) Write: D.A. Smith Engineering, Inc., P.O. Box 301, La Jolla, California 92038 and send a copy of your initial correspondence to Canadian Consulate General, 510 West Sixth Street, Los Angeles, California 90014, U.S.A.

Roasting, Grinding and Infusing of Coffee/311

Canadian inventor offers the licensing rights to his U.S. and Canadian patents, and pending patents in eight Euro-

copeaux. Il s'agit d'un appareil composé d'une trémie à copeaux, qui alimente une étuve au moyen d'un agitateur à roue dentée entraîné par une vis sans fin. Raccordé à un générateur de chaleur dans les habitations, les garages et les petites entreprises, l'appareil est commandé automatiquement par le thermostat du générateur. Le combustible utilisé est fort varié, de la sciure aux copeaux, ces derniers pouvant être de bois vert ou sec. De par sa conception, l'appareil ne montre aucune fluctuation calorifique. L'ensemble a un encombrement de 2 m de longueur, sur 1,05 m de largeur et 1 m de hauteur. Sa capacité est de 800 à 1300 litres mais peut être augmentée par un raccordement à une plus grande trémie. Le donneur de licence offrira son aide en ce qui a trait aux plans, aux connaissances techniques et à la documentation publicitaire. (Voir illustration page 41.) Écrire à: AB Linjetjänst, boîte 4, S-777 00 Smedjebacken (Suède) et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, C.P. 16129, S-103 23 Stockholm 16 (Suède).

Trousse de conversion de l'alimentation des moteurs à essence/311

Une société d'ingénierie américaine offre à une firme canadienne les droits de fabrication et de mise en marché, en Occident, de la trousse de conversion PRO-POWER conçue pour permettre aux moteurs industriels et automobiles à combustion interne de consommer du gaz naturel comprimé (CNG), du propane (LPG) ou du butane soit comme carburant exclusif, soit comme carburant de rechange à l'essence. Ce dispositif convient à la plupart des types de moteur, à l'exception de ceux qui utilisent le carburant diesel. Voici quels sont les avantages du produit: le dispositif Pro-Power peut être facilement monté par des personnes qui n'ont qu'une connaissance élémentaire de la mécanique; il est conçu pour durer au moins 80 000 km, ne requérant à ce stade que le remplacement d'une membrane bon marché. Comme carburant, le propane est plus économique car il se vend presque partout à environ la moitié du prix de l'essence; il a un indice d'octane plus élevé, ce qui élimine les problèmes inhérents aux carburants à indice d'octane plus faible, et brûle plus proprement que l'essence. La société américaine 1) autorisera l'emploi de la marque déposée Pro-Power; 2) vendra les droits de fabrication, de distribution, d'utilisation et de développement du dispositif Pro-Power; 3) fournira à l'acheteur les bleus de tout le dispositif ainsi que les modèles (moules permanents) du régulateur atomiseur exclusif Pro-Power; 4) fournira une liste des sources d'approvisionnement américaines indépendantes pour toutes les pièces et matériaux utilisés pour les produits non fabriqués par la compagnie (c'est-à-dire, les soupapes et le matériau de la membrane); 5) négociera une entente avec un distributeur dont le bureau est situé à Los Angeles (Californie) pour le marché américain. (Voir l'illustration page 41.) Écrire à: D.A. Smith Engineering, Inc., P.O. Box 301, La Jolla (Californie) 92038 et faire parvenir une copie de votre correspondance initiale au Consulat général du Canada, 510 West Sixth Street, Los Angeles (Californie) 90014.

Torréfaction, moulage et infusion du café/311

Un inventeur canadien offre les droits de licence sous ses brevets américain et canadien, et sous ses brevets en ins-

pean countries, for an apparatus and a method which can be used for the commercial and household roasting, grinding and infusing of coffee beans and for making other hot beverages. The apparatus features a heatable basket for hard and/or soft foodstuff and a rotating blade to ensure a uniform roast. When the beans are roasted, the heating of the basket is switched off and the blade is rotated at higher speed whereby the roasted material is ground. At the same time water is heated and the hot water and/or steam is lead to the top of the (practically) closed unit, drops and mixes with and absorbs the aromas and fragrances of the contents of the basket, leaches the grind and, through perforations in the basket, drips to the bottom of the vessel. Write: Mr. Steven D. Sandor, 19 Woodmount Crescent, Nepean, Ontario K2E 5P9 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.

tance d'acceptation dans huit pays européens, d'un appareil et d'une méthode pouvant être utilisés pour la torréfaction, le moulage et l'infusion des grains de café et pour la production d'autres boissons chaudes à l'échelle commerciale ou domestique. L'appareil comprend un panier chauffable pour les produits durs ou mous et une lame rotative pour assurer une torréfaction uniforme. Une fois les grains torréfiés, le chauffage du panier est arrêté et la lame se met à tourner plus rapidement pour moudre. Pendant ce temps, l'eau chauffée et/ou la vapeur est amenée au haut de l'appareil (pratiquement) fermé, elle s'infiltre dans le contenu du panier et en absorbe les arômes, filtre à travers le café moulu et s'écoule au fond du récipient par des perforations dans le panier. Écrire à: M. Steven D. Sandor, 19 Woodmount Crescent, Nepean, Ontario K2E 5P9 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, Ontario K1A 0H5.

Musical Training Game/311

American lecturer/instructor of music for 43 years offers a manufacturing and marketing license for a note identification musical training board game specifically designed for classroom use. A mock-up of the game-board and pieces, rules, and test marketing information are available; also, the original art for sales literature has been prepared. The game is claimed to motivate and hold the novice student's interest and by increasing the game's complexity, be appropriate for improved skills. The game requires logic and retentive powers, combining both education and entertainment. It consists of a reversible playing board, four horse note markers, four sets of playing cards, and instructions. Players simultaneously flip cards which indicate lines or spaces on the scale, and move their playing pieces (horses) as quickly as possible to the finish line. Each student works at his or her own pace, spurred by the spirit of competition, just as a horse is urged to go faster when racing. In order to move his horse ahead quickly, the student must learn his notes better and recognize them faster than other students do. This game includes both treble and bass staffs. Winning requires a little luck in drawing the cards and a lot of knowledge about notes and staffs. The teacher monitors the race to determine the final winner. Write: Mr. Earl E. Rishell, Licensing Director, Invention Marketing Incorporated, 701 Smithfield Street, Pittsburgh, Pennsylvania 15222 and send a copy of your initial correspondence to Canadian Consulate, Illuminating Building, 55 Public Square, Cleveland, Ohio 44113, U.S.A.

Jeu de formation musicale/311

Un professeur et conférencier américain, spécialisé dans l'enseignement de la musique depuis 43 ans, offre une licence de fabrication et de commercialisation d'un genre de tableau qui permet, sous forme de jeu, d'apprendre à lire les notes de musique et qui est spécialement conçu pour les écoles. Il est possible de se procurer un modèle du tableau et des pièces, ainsi que les règles du jeu et les premiers renseignements à l'égard de la commercialisation; par ailleurs, la conception artistique de la publicité est également disponible. Il semble que ce jeu motive le débutant et retient son attention et qu'il suffit d'en accroître la complexité pour qu'il réponde aux besoins d'étudiants plus avancés. Éducatif et amusant, le jeu exige de la logique et de la mémoire. Il se compose d'un tableau à double face, de quatre "chevaux", de quatre jeux de cartes et des règles du jeu. Les joueurs retournent simultanément les cartes, qui indiquent des lignes ou des intervalles de la portée, et déplacent leurs pièces (chevaux) le plus rapidement possible jusqu'à la ligne d'arrivée. À l'exemple du cheval sollicité durant la course, chaque élève joue à son rythme et ressent un sentiment d'émulation. Afin de déplacer rapidement son cheval, l'élève doit mieux apprendre les notes et les reconnaître plus vite que ses compagnons. Le jeu comporte en outre des portées avec clés de sol et de fa. Pour gagner, il faut un peu de chance dans le choix des cartes et une bonne connaissance des notes et des clés; l'enseignant dirige la course et proclame le vainqueur. Écrire à: M. Earl E. Rishell, Licensing Director, Invention Marketing Incorporated, 701 Smithfield Street, Pittsburgh (Pennsylvanie) 15222 et faire parvenir une copie de votre correspondance initiale au Consulat du Canada, Illuminating Building, 55 Public Square, Cleveland, Ohio 44113 (É.-U.).

IZ Jet Ventilation System/311

East German firm offers the licensing rights in Canada to a high performance process for purifying waste waters in the petrochemical industry, herbicide production and the production of terephthalic acid esters. The process avoids building intensive slurry installations with micro organisms by the construction of a system using several

Système d'aération par jets immergés (IZ)/311

Une société est-allemande offre les droits de licence au Canada s'appliquant à un procédé haute performance pour l'épuration des eaux usées de l'industrie pétrochimique, de la production d'herbicides et de la production d'esters de l'acide téréphtalique. Le procédé évite d'avoir à construire de vastes installations à boues activées puisqu'il suffit de

reactors (500 m^3 tanks) or basins, gyro pumps for the ventilation system, shaft overflows and, if necessary, foam destroyers. Energy consumption is 0.3 kWh/kgO_2 and the space requirements compared to surface gyros amount to one quarter to one seventh while the investment costs are reduced by 40 per cent. In this process, oxygen enters the reaction room in a fine-distributed form by means of an approximately vertical input of a gas-containing free jet with strong impulses. Due to the injector effect in the jet entry zone, and the buoyancy movement of the air bubbles, the required turbulence is produced. The gas-containing free jet is generated by a shaft overflow. The quantity of oxygen put in depends both on the recycle ratio of the liquid and the characteristic data of the shaft overflow. Write: VEB Ingenieurtechnisches Zentralburo, Bohlen, DDR 7202 Bohlen, German Democratic Republic and send a copy of your initial correspondence to 1) Mr. Fritz Zschernig, General Director, Marketing & Development Department, The Central Office of International License Commerce of the G.D.R., Schicklerstr. 57, 102 Berlin, German Democratic Republic and 2) Commercial Division, Canadian Embassy, Matejki 1/5, Srodmiescle, Warsaw, Poland.

Process for the Catalytic Purification of Industrial Waste Gases/311

East German firm offers the licensing rights in Canada to its process making possible, with a relatively low technical expenditure, to automatically destroy at low temperatures, the toxical or bad-smelling substances contained in waste gases. The catalysts used depend on the composition of the respective waste gas and should be tested in a transportable test unit at the place where the waste gases occur. By the construction and the operation of a catalytic waste gas purification plant, waste gases which contain greater amounts of oxidisable noxious matters allow, under favourable conditions, an economical recovery of heat and/or an autothermal execution of the process. The process is suitable for the oxidative destruction of, for example, the following noxious substances: hydrogen sulphide, mercaptans, thiophenols, aliphatic amines, aromatic amines, aliphatic hydrocarbons, aromatic hydrocarbons, alcohols, phenols, clorinated organic compounds, etc. The operation expenditure is low. The process works in accordance with the principle of flameless combustion with especially selected catalysts. If the amount of oxygen required for oxidation is not contained already in the waste gas, it is mixed with the waste gas to be purified before the catalyst bed in the form of atmospheric oxygen. The catalysts work generally in a temperature range of 250 to 500°C. Waste gases which only contain small amounts of organic contaminations must be heated in a combustion chamber to the required reaction temperature by means of heating gas or fuel oil. If larger amounts of waste gas are subjected to a catalytic purification the incorporation of heat transmitters for heating up the waste gas or, if necessary, the combustion air is recommended. Degree of efficiency of the chemical-catalytic reaction is 95 to 99.9 per cent. Write: VEB Synthesewerk, Schwarzheide, DDR 7817 Scharwarzheide, German Democratic Republic and send a copy of your initial correspondence to 1) Mr. Fritz Zscherning, General Director, Marketing & Development Department, The Central Office of International License Commerce of the G.D.R., Schicklerstr. 57, 102 Berlin, German Democratic Republic and 2) Commercial Division,

quelques réacteurs (réservoirs de 500 m^3), de pompes rotatives, de puits de chute de l'eau et, si nécessaire, des brise-mousse. La consommation d'énergie n'est que de 0,3 kWh/kg O_2 et l'espace nécessaire ne représente guère que du quart au septième de l'espace qu'exigent les aérateurs de surface, à un coût réduit de 40 pour cent. Dans ce procédé, l'oxygène entre dans la chambre de réaction avec un fort courant à peu près vertical, causé par la chute de l'eau dans un puits, qui est introduit dans la chambre par des ajutages. La turbulence nécessaire est produite, entre autre, par l'effet d'injection dans la zone d'entrée et le mouvement ascendant des bulles d'air. La quantité d'oxygène introduite dépend de la quantité d'eau recyclée et des caractéristiques du puits vertical. Écrire à: VEB Ingenieurtechnisches Zentralburo, Bohlen, DDR 7202 Bohlen, (Allemagne de l'Est) et faire parvenir une copie de votre correspondance initiale à: 1) M. Fritz Zscherning, Directeur général, Marketing & Development Department, The Central Office of International License Commerce of the G.D.R., Schicklerstr. 57, 102 Berlin (Allemagne de l'Est) et 2) Division commerciale, Ambassade du Canada, Matejki 1/5, Srodmiescle, Varsovie (Pologne).

Purification catalytique de gaz résiduaires industriels/311

Une société est-allemande offre les droits de licence au Canada s'appliquant à un procédé qui est relativement peu dispendieux et qui permet de détruire automatiquement à de basses températures les substances toxiques et nauséabondes des gaz résiduaires. Les catalyseurs utilisés dépendent de la composition des différents gaz résiduaires et doivent être évalués dans un dispositif portatif prévu à cet effet, à l'endroit d'où émanent les gaz résiduaires. Dans le cas de gaz contenant une plus grande quantité de substances nocives oxydables, il est possible, dans des conditions favorables, de récupérer de la chaleur et/ou de rendre le procédé autosuffisant du point de vue thermique. Le procédé peut s'appliquer à la destruction par oxydation de substances nocives, par exemple: sulfure d'hydrogène, mercaptans, thiophénols, amines aliphatiques, amines aromatiques, hydrocarbures aliphatiques, hydrocarbures aromatiques, alcools, phénols, composés organochlorés, etc. . Les coûts d'exploitation sont faibles. Le procédé fonctionne selon le principe de la combustion sans flamme et utilise des catalyseurs choisis en conséquence. Si le gaz résiduaire ne renferme pas déjà la quantité d'oxygène suffisante pour l'oxydation, on incorpore de l'oxygène sous forme d'oxygène atmosphérique avant d'ajouter le catalyseur. Les catalyseurs réagissent généralement dans la plage 250-500°C. Les gaz résiduaires qui ne renferment que de faibles quantités de contaminants organiques doivent être chauffés dans une chambre de combustion jusqu'à la température nécessaire pour entretenir la réaction, au moyen d'un gaz de chauffage ou de mazout. Dans le cas où l'on doit traiter des quantités plus importantes de gaz résiduaires, on recommande d'ajouter des transmetteurs de chaleur pour chauffer les gaz résiduaires ou, au besoin, de l'air. Le rendement de la réaction chimique catalytique est de 95-99.9%. Écrire à: VEB Synthesewerk, Schwarzheide, DDR 7817 Scharwarzheide (Allemagne de l'Est) et faire parvenir une copie de votre correspondance initiale à: 1) M. Fritz Zscherning, Director général, Marketing & Development Department, The Central Office of International License Commerce of

Canadian Embassy, Matejki 1/5, Srodmiescle, Warsaw, Poland.

Process of Establishing Adhesive Bonded Joints Using Thermoplastic Adhesive/311

East German firm offers the licensing rights in Canada to its technology for thermoplasticly bonding utility elements and components to surfaces such as brick and concrete. The process, which utilises an open flame (approximately 1200°C to 1800°C), is claimed to be particularly appropriate to buried or underground installations, since wet, dirty or freezing conditions do not prevent the use of the technique. Other advantages are said to be the low cost of the materials used, the elimination of mechanical supports such as dowels, screws, nails, etc., and the rapidity of hardening. Write: VEB Starkstrom-Anlagenbau, Leipzig-Halle, Humboldstr. 2a, 701 Leipzig, German Democratic Republic and send a copy of your initial correspondence to 1) Mr. Fritz Zscherning, General Director, Marketing & Development Department, The Central Office of International License Commerce of the G.D.R. Schicklerstr. 57, 102 Berlin, German Democratic Republic and 2) Commercial Division, Canadian Embassy, Matejki 1/5, Srodmiescle, Warsaw, Poland.

the G.D.R., Schicklerstr. 57, 102 Berlin (Allemagne de l'Est) et 2) Division commerciale, Ambassade du Canada, Matejki 1/5, Srodmiescle, Varsovie (Pologne).

Procédé de fixation par adhérence thermoplastique/311

Une société est-allemande offre les droits de licence au Canada s'appliquant à une technique permettant de fixer thermoplastiquement des éléments et des pièces d'installations de services publics à des surfaces comme la brique et le béton. Étant donné que ce procédé exige l'emploi d'une flamme nue, de 1200 à 1800°C, il semble être particulièrement pratique dans le cas d'installations souterraines en milieu humide, sale ou gelé; en outre, il semble également qu'il présente certains autres avantages, soit le coût peu élevé des matériaux utilisés, l'élimination des fixations mécaniques (goujons, vis, clous, etc.) et la rapidité de prise. Écrire à: VEB Starkstrom-Anlagenbau, Leipzig-Halle, Humboldstr. 2a, 701 Leipzig (Allemagne de l'Est) et faire parvenir une copie de votre correspondance initiale à: 1) M. Fritz Zscherning, Directeur général, Marketing & Development Department, The Central Office of International License Commerce of the G.D.R., Schicklerstr. 57, 102 Berlin (Allemagne de l'Est) et 2) Division commerciale, Ambassade du Canada, Matejki 1/5, Srodmiescle, Varsovie (Pologne).

Canadian Patents Available for Licensing or Sale in Canada Issued October 1981

Note:
Résumés of the following Canadian Patents are published in the language of application, English or French.

Weed Harvester/309/311

Correction from October New Products Bulletin 309. Patent number is 1,106,190.

Aquatic weeds are harvested by dragging a cable through such weeds in a direction substantially perpendicular to the longitudinal axis of the cable while rotating the cable around its longitudinal axis, whereby the weeds are wound around the cable and thus pulled from the bottom of the waterway. The cable passes around a drum on a frame, the frame and cable being rotated together on a platform. The platform is mounted on a land or water based vehicle. The cable can be winched into the frame between blades which cut the weeds from the cable. Write: **PATENT 1,106,190**, J. Armand Desrosiers; Ralph B. Arner, 8744 - 89 Avenue, Edmonton, Alberta T6C 1N7 and send a copy of your initial correspondence to the Licensing Opportunities Section (34/3), Business Centre, Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.

Sign Letter Construction/311

A simplified method of constructing letters for signs and the letters produced by such method. The letters comprise first and second letter-form members of similar size and shape that are maintained in parallel spaced relation by a thin, pliable, plastic strip material which extends around their peripheries and is adhesively secured to such peripheries so as to form a frame therearound. **PATENT 1,110,061**. Write: Prestige Signs Ltd. 117 Marion Drive, Sherwood Park, Alberta T8A 2G8 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.

Method and Apparatus for the Refining of Melts by Means of a Pulverous Solid Material and/or a Gas/311

A method and apparatus for refining a melt by means of a pulverous solid material and a carrier gas, in which the pulverous solid material and gas are injected into a reactor while melt is poured into the reactor, the kinetic energy of the melt created by falling being utilized for mixing the pulverous reagent and the gas with the melt, and the agitation of the melt surface being attenuated by causing the flow of the injected pulverous reagent and gas and the flow of the melt being poured to impinge against each other from opposite directions in the reactor. **PATENT 1,110,078**. Write: Outokumpu Oy, P.O. Box 280, SF-00101, Helsinki 10, Finland and send a copy of your initial correspondence to the Commercial Division, Canadian Embassy, Pohjois Esplanadi 25B, 00100 Helsinki 10, Finland.

Device for Collecting and/or Transporting Thermic Energy/311

The disclosure herein describes a heat collecting system of a "box with reflecting walls". Special new features of this collector make it capable of providing high grade thermic energy by featuring a self-ventilation and transportation arrangement to and from the storage facility. Thus a more rational use is made of the heat produced in a furnace, or of the incident sunlight especially in northern climates. This invention offers the potential for low cost construction of a concentrating solar energy collector. **PATENT 1,110,131**. Write: Max G. Krell, R.R. 1, North Hatley, Quebec J0B 2C0 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.

Liste des brevets canadiens disponibles pour octroi de licence ou vente au Canada délivrés en octobre 1981

Note:
Des résumés des brevets canadiens ci-joints sont publiés dans la langue de la demande de brevet, en anglais ou en français.

Collecteur d'herbes aquatiques/309/311

Correction concernant le Bulletin de produits nouveaux 309 du mois d'octobre. Le numéro du brevet est 1,106,190.

Façonnage de lettres pour panneaux publicitaires/311

Méthode et appareil d'affinage de fontes au moyen d'une substance solide pulvérulente et/ou d'un gaz/311

Dispositif de captage et de transport d'énergie thermique/311

Deuterium Enrichment by Selective Photo-Induced Dissociation of an Organic Carbonyl Compound/311

Enrichissement en deutérium par dissociation sélective photo-induite d'un composé organique carbonylé/311

A method for producing a deuterium enriched material by photo-induced dissociation which uses as the working material a gas phase photolytically dissociable organic carbonyl compound containing at least one hydrogen atom bonded to an atom which is adjacent to a carbonyl group and consisting of molecules wherein said hydrogen atom is present as deuterium and molecules wherein said hydrogen atom is present as another isotope of hydrogen. The organic carbonyl compound is subjected to intense infrared radiation at a preselected wavelength to selectively excite and thereby induce dissociation of the deuterium containing species to yield a deuterium enriched stable molecular product. Undissociated carbonyl compound, depleted in deuterium, is preferably redeuterated for reuse. **PATENT 1,110,199**. Write: Mr. 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, U.S.A.

Adhesive Bookcase Closure Panel/311

Panneau à fixation adhésive servant de porte pour étagère à livres/311

A set of vertical partitions are connected by runner strips to form channels within which a sliding partition may be supported when an adhesive backing material attached to a rear side of the channel is attached to the edges of the shelves of a bookcase. **PATENT 1,110,311**. Write: John H. Bierwirth, III, 2 Grace Court, Brooklyn, New York 11201 and send a copy of your initial correspondence to Canadian Consulate General, 1251 Avenue of the Americas, New York City, N.Y. 10020, U.S.A.

Electronic Currency Counter/311

Compteur électronique de monnaies/311

A pocket-sized electronic currency counter counts a stack of paper currency via a light beam and a plurality of photoresponsive cells. A counter in a housing is electrically connected to the cells for counting the electrical signals produced thereby and an indicator electrically connected to the counter in the housing visually indicates the count of the counter. **PATENT 1,110,343**. Write: Dmytro Tomyn, 58 Stephenson Crescent, Saskatoon, Saskatchewan S7H 3L7 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.

Corrosion Inhibitive Pigment/311

Pigment anticorrosion/311

A chromium chromate complex, obtained by partial reduction of chromic acid in aqueous media with an organic reducing agent, is converted to pigment form by evaporating the resulting aqueous composition to dryness and sub-dividing the obtained solid mass to suitable size. The obtained pigment, with or without intimately associated extenders, incorporated in a conventional vehicle, serves as a corrosion inhibitor in metal coating compositions. **PATENT 1,110,441**. Write: Louis Schiffman, 1837 Merritt Road, Abington, Pennsylvania 19001 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102, U.S.A.

Sign Box/311

Cadre d'affichage à porte sur charnière/311

A hinge for a sign box or the like includes a hollow, semi-cylindrical channel member extending along the front edge of the top of the body of the box, with an opening along the length of the planar top surface of the channel member for receiving a semi-cylindrical pivot element. The pivot element is defined by a pair of arms, which are inserted into the channel member and can be rotated therein for opening and closing the box. The pivot element has the same shape as the channel member and dimensions slightly less than the internal dimensions of the channel member. **PATENT 1,110,448**. Maurice Silver, 525 - 6th Avenue S.W., Calgary, Alberta T2P 0R8 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.

Self-Disintegrating Raney Metal Alloys/311

Alliages métalliques auto-désintégrateurs de type Raney/311

A method of preparing a Raney metal alloy which is capable of self-disintegrating when contacted with water vapor. The self-disintegrating property is imparted to the alloy by incorporating into the alloy from 0.4 to 0.8 weight percent carbon. The alloy is useful in forming powder which can be converted to a Raney metal catalyst with increased surface area and catalytic activity. **PATENT 1,110,471**. Write: Mr. 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, U.S.A.

Ammonia Applicator Blade/311

Applicateur d'ammoniaque/311

A point for welded removable attachment to a mild steel blade shank and tube to constitute an ammonia applicator blade, such point being cast of high chrome iron to be extremely wear resistant. The point tapers forwardly in width and its generally horizontal bottom slopes downwardly in its forward portion so that outwardly projecting lips along its lower edges not only laterally open and break up soil for swifter ammonia absorption but also tend to pull the blade down into the soil. The point has a V-shaped opening for accommodating the blade shank to which it is butt welded. **PATENT 1,110,500**. Write: Ausherman Manufacturing Co., Inc., 615 Street, Belleville, Kansas 66935 and send a copy of your initial correspondence to Canadian Consulate, 2001 Bryan Tower, Suite 1600, Dallas, Texas 75201, U.S.A.

Convertible Inflated Play Vehicle/311

Véhicule-jouet gonflable convertible/311

A convertible play vehicle comprising an inflatable flotation ring encircling an integral reinforced, load-bearing platform that lies mid-way of the height of the flotation ring and has spaced openings near the circumference thereof that may serve as hand grips and a separable sled portion releasably secured on the underside of the inflatable ring by straps that are attached to the sled and extend over the ring, passing twice through the ring platform via the circumferential openings therein. The inflatable ring may be formed of two circular disks of rubber-like material vulcanized together at their outer circumference and at a concentric circle spaced inwardly therefrom to provide an inflatable endless tube therebetween. The sled may be of fiberglass or plastic with its ends rounded up to accommodate the inflated ring and provided with integral strap-passing eyelets on its upper side and parallel runners extending longitudinally on the underside. **PATENT 1,110,501**. Write: Lloyd Reeves, 1812 - 2nd Avenue S., Lethbridge, Alberta T1J 0G4; Lester W. Sorensen, 2303 - 6th Avenue S., Lethbridge, Alberta T1J 1C2 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.

Unidirectional Fluid Flow Membrane/311

Membrane permettant le passage d'un fluide dans un seul sens/311

An unidirectional fluid flow membrane in the form of a sheet of porous plastic material comprising a multitude of interconnected pores that together define passages suitable to allow a gas such as air to flow. The sheet of plastic material has one face heat-treated to partially close the passages to an extent sufficient to prevent a liquid such as water from flowing across the sheet toward the other face, whereby this sheet acts as a check-valve with respect to the liquid only. Owing to its unidirectional structure, this membrane can advantageously be used as overpressure valve in a life or sea jacket or as purge valve or exhaust diaphragm in an underwater mask, snorkel or regulator. **PATENT 1,110,511**. Write: Paul Chamberland, 191 Bord du Lac, Pointe Claire, Quebec H9S 4J9 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.

Portable Grill/311

Gril portable/311

The invention relates to a portable grill for firing with preferably solid fuel, e.g. charcoal or the like. The grill comprises a furnace, defined by a rectangular bottom wall, two end walls and two side walls, and a support for a grill grating or the like are arranged above the furnace. The object of the invention is to provide a grill requiring very small storage space and being simple to get ready for use. This is achieved in that the bottom wall of the furnace is pivotally connected to each end wall by at least two pivots for pivotal movement around a line that is parallel to and situated adjacent the edge of the bottom wall facing the end wall, and in that each side wall is pivotally connected to each end wall by a pivot which permits turning movement both around a line connecting the pivots at both ends of the side wall and around a line that is parallel to and situated adjacent the edge of the side wall facing the end wall, so that the grill, after turning of the side walls to positions where they are parallel to the bottom wall, is collapsible to a substantially flat condition. **PATENT 1,110,514**. Write: Primus-Sievert AB, Vretenvägen 4, S-171, 54 Solna, Sweden and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, P.O. Box 16129, S-103 23 Stockholm 16, Sweden.

Electrolyzer/311

Électrolyseur/311

Électrolyseur pour solution aqueuse alcaline caractérisé par le fait que au moins la cathode est confectionnée en un alliage ternaire de nickel-beryllium-titane, les teneurs en beryllium et en titane étant respectivement de 1 à 3% en poids, par le fait que ladite solution aqueuse alcaline est portée à une température au moins égale à 110°C. L'invention est mise en oeuvre pour la production d'hydrogène électrolytique. **BREVET 1,110,579**. Écrire à: Alsthom-Atlantique, 38, avenue Kléber, 75784 Paris, Cédex 16, France et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, 35, avenue Montaigne, 75008 Paris, France.

Pneumatic-Tube Station/311

Poste de réception/expédition par tube pneumatique/311

A pneumatic-tube station used in a pneumatic conveyor system. The station has a carrier-receiving tube portion movable into and out of the main delivery tube and when the tube portion is in position in the delivery tube its ends are sealed. A slider which moves the tube portion is positioned adjacent one end thereof, and the ends of the delivery tube are interconnected by an air passage. When the tube portion is moved away from the delivery tube, it becomes positioned between a storage hopper provided with holding means and a discharge opening. **PATENT 1,110,603**. Write: Aerotrans Rohrpostanlagen Gesellschaft m.b.H., Robinigstrasse 26a, A-5020 Salzburg, Austria and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Luegerring 10, 1010 Vienna, Austria.

Contact Control Pushbutton/311

Bouton-poussoir de commande d'un organe de contact/311

L'invention concerne un bouton-poussoir comprenant à l'intérieur d'un boîtier une touche de commande d'un poussoir actionnant un organe de contact commandé comportant une position de repos et une position de travail, ladite touche étant disposée coulissante et amovible au travers d'une des faces du boîtier. Le bouton-poussoir est caractérisé en ce que la touche de commande est amovible au travers de ladite face du boîtier et munie d'un organe de sélection du positionnement de l'organe commandé à la suite d'une action sur la touche, ledit organe de sélection comportant une première position dans laquelle la touche commande une impulsion de l'organe commandé et une deuxième position dans laquelle la touche commande un enclenchement de l'organe commandé. L'invention s'applique à l'équipement des tableaux et pupitres de commande d'appareils électriques. **PATENT 1,110,682**. Écrire à: CGEE Alsthom, 13, rue Antonin Raynaud, 92309 Levallois-Perret, France et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, 35, avenue Montaigne, 75008 Paris France.

Drive Circuits for a High Resolution Cathode Ray Tube Display/311

Circuits de commande pour affichage sur écran cathodique à grand pouvoir de séparation/311

This invention discloses a high frequency two way scan circuit for causing trade and retrace scans on a cathode ray tube having a yoke. A sweep means is connected to the yoke for causing the trace to sweep across the tube and a receiving means is provided to receive a trace sync signal. A first circuit turns off the sweep means during the retrace and a second circuit is provided for turning on the retrace means. The cathode ray tube having this circuit permits an extremely high resolution cathode ray tube display which has unparalleled clarity and resolution when compared to the prior art devices. **PATENT 1,110,775**. Write: CPT Corporation, 14525 Highway 7, Minnetonka, Minnesota 55343 and send a copy of your initial correspondence to Canadian Consulate, 15 South Fifth Street, Minneapolis, Minnesota 55402, U.S.A.

Drive Circuits for a High Resolution Cathode Ray Tube Display/311

Circuits de commande pour affichage sur écran cathodique à grand pouvoir de séparation/311

This invention relates to a novel drive circuit for use with a cathode ray tube display circuit having a yoke. The drive circuit includes a receiving means for an input signal, a linear ramp signal generator and a solid state shaping means for shaping the linear ramp to compensate for nonlinearities. Summing means is provided to produce a compensated drive signal and the yoke is driven according to the signal produced. The cathode ray tube utilizing this drive circuit produces a high frequency display which has unparalleled clarity and resolution when compared to the prior art devices. **PATENT 1,110,776**. Write: CPT Corporation, 14525 Highway 7, Minnetonka, Minnesota 55343 and send a copy of your initial correspondence to Canadian Consulate, 15 South Fifth Street, Minneapolis, Minnesota 55402, U.S.A.

Vacuum Coating Box/311

Caisse de couchage sous vide/311

A coating composition is applied to a paper web while the web passes over an opening in a box in which a partial vacuum is maintained. The opening is divided into two sections by means of a support member disposed perpendicular to the direction of travel of the web. The coating composition is applied to the web in the downstream section of the opening, and the upstream section is considerably greater in area than the downstream section to create a tension on the web and thereby eliminate unstretched areas in the web. **PATENT 1,110,843**. Write: Billeruds Aktiebolag, Box 60, S 661 00, Säffle, Sweden and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, P.O. Box 16129, S-103 23 Stockholm 16, Sweden.

Collapsible Trap/311

Piège reployable/311

A trap for catching crustaceans constructed from frame members slidable relative to each other between two positions, in one of which the trap is open for catching crustaceans and in the other of which it is closed and in a collapsed condition for

transportation on boats and for storage. **PATENT 1,110,850**. Write: Georges H. Imbeault, 172 Ruskin, Ottawa, Ontario K1Y 4C1 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.

Method for Manufacturing Fertilizer from Tree Bark/311

Méthode de conversion de l'écorce d'arbres en engrais/311

In a method for treating tree bark with molasses to render it suitable for use as fertilizer, the improvement which comprises reducing the pH value of the molasses to 3.5 and then passing the mixture of bark and molasses through a rotating and pressurized oven. **PATENT 1,110,864**. Write: Arex Oy, Opastinsilta 8A, SF-00520 Helsinki 52, Finland and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Pohjois Esplanadi 25B, 00100 Helsinki 10, Finland.

Factory-Built Insulated Cable and Termination System/311

Câble isolé avec système de terminaison préfabriqué/311

This invention relates to a new cable system with pressurized gas insulation and a continuous spacer which is coilable on a reel. The system is factory-built with a pipe cable, and terminations ready for use. The purpose of the invention is to provide a low first cost energy conservative cable. This is made possible by a sodium conductor encased in a aluminum tube, a continuous crepe paper spacer, durable SF_6 pressurized gas for the insulation, and a non-metallic coilable pipe which is pressurizable and provides an insulating barrier at terminations. The cable and terminations are factory tested, shipped and installed under the same gas pressure. **PATENT 1,111,116**. Write: Paul F. Pugh, 4082 Sequoyah Road, Oakland, California 94605 and send a copy of your initial correspondence to Canadian Consulate General, One Maritime Plaza, Alcoa Building, Suite 1100, Golden Gateway Center, San Francisco, California 94111, U.S.A.

Automatic Draft Control/311

Régulateur automatique de tirage/311

A flue damper control includes a fuel pipe, a damper in the fuel pipe and an electro-mechanical control for opening and closing the damper according to thermostatically controlled conditions. The damper control is provided with an adjustment means to adjust "full" open and "full" close positions of the damper vane. **PATENT 1,111, 127**. Write: Alfonso Iacono, 68 Lake Street Brooklyn, New York 11223 and send a copy of your initial correspondence to Canadian Consulate General, 1251 Avenue of the Americas, New York City, N.Y. 10020, U.S.A.

Emulsion Polymerisation Process/311

Procédé de polymérisation en émulsion/311

A process for reducing the residual monomer level of a polymer latex prepared by emulsion polymerisation comprises exposing the latex in a separate vessel from that in which the main polymerisation has been carried out to conditions under which free radicals are produced by a secondary catalyst added to the latex, the said catalyst being oil soluble or having an oil soluble component. In a preferred embodiment a polymer latex prepared by the emulsion polymerisation of styrene alone or a mixture containing styrene having a residual styrene level not exceeding 0.1% based on latex volume may be obtained. **PATENT 1,111,161**. Write: I.S.R. Holding, S.a.r.l., 43, rue Goethe, Luxembourg and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, rue de Loxum, 6, B-1000 Brussels, Belgium.

Polymerisation of Vinyl Monomers/311

Polymérisation des monomères de vinyle/311

An emulsion polymerisation process comprises subjecting an intimate aqueous dispersion of monomer material comprising at least one vinyl aromatic monomer, optionally with unsaturated nitrile or conjugated diene comonomer to a rapid polymerisation, preferably adiabatic, in the presence of a particular emulsifier system in a continuous flow agitated reaction carried out at 80°C to 100°C. The thermoplastic product in latex form is continuously removed and is ideal for use in reinforcing rubber latices. An advantage is that a small reactor may be used to obtain a large throughput. **PATENT 1,111,163**. Write: I.S.R. Holding Sarl, rue Goethe 43, Luxembourg and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, rue de Loxum, 6, B-1000 Brussels, Belgium.

Tension Release Coupling for Fishing Line/311

Accouplement détendeur pour ligne de pêche/311

A coupling assembly adapted to connect a fishhook to the remainder of a fishing line, including the lure, and which responds to tension on this remainder of the fishing line to release the same free of the fishhook when the latter catches a submerged obstacle. This tension release coupling assembly includes a resilient coupling member, such as of plastic, which is attached to the cord of the fishing line and which has a cavity therein adapted to releasably catch the eye of a common fishhook or an enlarged and portion of a specially made fishhook or hook connector member. The resilient

coupling member may be calibrated in relation to the different strengths of cord used for the fishing lines such that the fish-hook will be released before the tensional strength of the corresponding cord is reached. The resilient coupling members are colored in accordance with a code distinctive of the predetermined calibration or strength thereof. **PATENT 1,111,249**. Write: Bernard Coté, 12270 Saint Evariste Street, Montreal, Quebec H4J 2B7 and send a copy of your initial correspondence to the Licensing Opportunities Section (34/3), Business Centre, Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.

Support for Sharpening Chain Saws at the Work Site/311

Support d'affûtage de scies à chaîne sur le chantier/311

A support for sharpening chain saws is disclosed consisting of an L-shaped member having a threaded spike adapted to be screwed into the cut surface of a tree trunk. The horizontal arm of the member is provided with clamping means to hold fast the blade of the chain saw. A second, straight member adapted to support the handle or safety guard of the chain saw is height-adjustably secured to the vertical arm of the L-shaped member. The chain saw is held in upside down position for easy access to the chain teeth to be sharpened. **PATENT 1,111,457**. Write: Léonce DeRoy, 3464 Saint-Samuel Street, Beauport, Quebec G1C 3T8 and send a copy of your initial correspondence to the Licensing Opportunities Section (34/3), Business Centre, Department of Industry, Trade and Commerce, Ottawa, Ontario K1A 0H5.

Facsimile Transmission Apparatus with Reduced Redundancy/311

Installation de transmission de facsimile à réduction de redondance/311

Installation de transmission de fac-similé à réduction de redondance comportant à l'émission un dispositif permettant d'élaborer des mots de longueur de plage à partir des données binaires d'analyse du document. Selon l'invention, à l'émission un ensemble de circuits de logique combinatoire de préférence de type PLA est programmé pour assurer le transcodage des mots de longueur de plage en d'autres mots, en utilisant un code de Huffman tronqué et, à la réception, des ensembles de préférence également de type PLA assurent un transcodage inverse. **BREVET 1,111,547**. Écrire à: Compagnie Industrielle des Télécommunications Cit-Alcatel, 12, rue de la Baume, 75008 Paris, France et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, 35, avenue Montaigne, 75008 Paris, France.

Frequency Recognizing Device for PCM Telephone Systems/311

Dispositif pour la reconnaissance d'une fréquence dans un signal téléphonique codé en MIC/311

L'invention se réfère à un dispositif de reconnaissance numérique d'une fréquence dans un signal MIC. Selon l'invention, on prévoit un compteur/décompteur qui reçoit a impulsions de comptage lorsque le signal à contrôle présente un changement de signe, et qui reçoit r impulsions de décomptage lorsque ce signal ne présente pas de changement de signe. Les nombres a et r sont déterminés en fonction du rapport entre la fréquence d'échantillonnage du signal MIC et la fréquence à reconnaître, de telle sorte que l'on puisse déduire la présence de cette fréquence d'un équilibre entre le nombre des impulsions de comptage et le nombre des impulsions de décomptage. Application à la reconnaissance de la tonalité de neutralisation pour un suppresseur d'écho dans une ligne téléphonique MIC. **BREVET 1,111,588**. Écrire à: Compagnie Industrielle des Télécommunications Cit-Alcatel, 12, rue de la Baume, 75008 Paris, France et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, 35, avenue Montaigne, 75008 Paris, France.

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Apparatus to Uniformly Control Wrapping a Filament Around the Surface of a Core Spun Yarn During Ring Spinning/311

Appareil permettant le guipage uniforme d'un filament autour d'un filé à âme durant la filature à anneau/311

Filed January 28, 1981, by the Department of Agriculture. An apparatus to uniformly wrap filament around the surface of a core spun yarn is disclosed. Means for fabricating a core yarn is provided. At the critical point of yarn fabrication, the spun core is simultaneously twisted or rotated on its longitudinal axis by means of ring spinning and contacted with a filament introduced by means of over-feed rollers. Helical wrapping of the filament around the surface of the staple core yarn takes place as the filament cohesively contacts the twisting core yarn to form a composite filament wound yarn. Write: **PAT-APPL-6-229 217**, NTIS.

Preparation of Alpha-Substituted Acrylic Acids/311

Préparation d'acides acryliques alpha-substitués/311

Filed February 20, 1981, by the Department of the Agriculture. This invention relates to the preparation of alpha-alkyl and alpha-aryl substituted acrylic acids and esters and more particularly to those derived from fatty acids such as lauric, myristic, palmitic, stearic and oleic acid. The invention also relates to a process for making the substituted acrylic acids in high yield and high purity. The alpha-substituted acrylic acids are prepared in high yield and high purity by the process of this invention. they are useful in making polymers as additives to lubricants and hydraulic fluids, particularly as friction and wear reducing agents. Write: **PAT-APPL-6-236 084**, NTIS.

Airfoil Vibration Test Apparatus/311

Dispositif de contrôle des vibrations des profils aérodynamiques/311

Filed December 4, 1980, by the Department of the Air Force. This invention relates generally to an apparatus for inducing vibrations in a plate type structure and, more particularly, to an airfoil blade, such as is used in various components of a gas turbine engine. A prime cause of airfoil blade failures occurring during testing and development programs has been, and remains, the response of the airfoil blade to chordwise bonding modes resulting from gaseous flow impingement during rotor blade/stator blade passing excitation. These 'striped-mode' responses are characterized by nodal patterns on the airfoil blade resulting in relatively large panel sections, continuous in the span-wise direction, vibrating at frequencies higher than the primary airfoil blade excitation modes. In addition, recent engine test experience has taught that second order of a blade or vane passing integer order of excitation of these modes is of aero-mechanical interest. Further, mechanical developments of airfoil blades will be significantly more straight forward if vibratory fatigue tests to crack inception can be conducted upon airfoil blades being shaken in these modes, many of which are characteristically difficult to drive at high strain levels with prior art vibration-inducing test apparatus. Write: **PAT-APPL-6-212 956**, NTIS.

Improved Impact Composite Blade/311

Aubes composites résistantes/311

Filed January 22, 1981, by the Department of the Air Force. This invention provides a composite blade, and more specifically a tip portion thereof, that fulfills the above-mentioned need. In addition, this invention provides a method of making the unique tip portion of the composite blade. Therefore, this invention constitutes a significant advance in the state-of-the-art. Write: **PAT-APPL-6-227 319**, NTIS.

Battery Electrode Hardness Tester/311

Banc d'essai de dureté des électrodes d'accumulateur/311

Filed January 22, 1981, by the Department of the Air Force. The instant invention permits the hardness testing of a batter electrode (including nickel electrode plaque), and thereby fulfills the above-mentioned need. Therefore, this unique hardness tester constitutes a significant advance in the state-of-the-art. Write: **PAT-APPL-6-227 564**, NTIS.

Battery Electrode Fatigue Simulator/311

Simulateur de fatigue des électrodes d'accumulateur/311

Filed January 22, 1981, by the Department of the Air Force. This invention relates generally to fatigue simulators, and more particularly, to a device which is capable of mechanically simulating the cyclic stress or fatigue which is undergone by nickel battery electrodes or more specifically, electrode plaque during battery operation. The instant invention overcomes the problems encountered in the past by providing a battery electrode fatigue simulator which is capable of realistically obtaining the cyclic stresses incurred during battery operation and which is easily and readily adaptable for use in the testing of nickel electrode plaque. The battery electrode fatigue simulator of this invention is made up of a support structure or frame which mounts therein a cam drive assembly, a pivotal 'rocking' beam, an adjustable stationary beam, a suitable displacement measuring transducer or transducers and an appropriate ohmmeter or ohmmeters. Clamps are ultilized to fixedly secure between the 'rocking' beam and the stationary beam the electrode plaque which is to undergo simulated stress or fatigue substantially equivalent to that encountered during battery operation. Write: **PAT-APPL-6-227 565**, NTIS.

Feed-Forward Compensated Low-Loss CCD Regeneration Apparatus/311

Circuit de régénération à compensation aval pour dispositif à couplage de charge à faible perte/311

Filed February 6, 1981, by the Department of the Air Force. The present invention utilizes a feed-forward regeneration circuit to compensate for the modulation of the trailing bias charge by the signal charge in a low-loss charge coupled device. The charge signal is sensed one or two stages before the regeneration stage. The sensed signal is delayed prior to application to the regeneration stage by an amount equal to the signal transit time through the charged coupled device to the regeneration

stage. The sensed signal is used to modulate the trailing bias level which is produced by the signal regenerator in a direction that is opposite to the modulation caused by subsequent first-order charge transfer losses. Objects of the present invention are to provide an improved low-loss charge coupled device regeneration stage. To provide an improved low-loss charge coupled device regeneration stage to compensate for the modulation of the trailing bias charge by the signal charge in a charge coupled device. To provide an improved low-loss charge coupled device regeneration stage wherein second order charge transfer losses are improved, and to provide an improved low-loss charge coupled device regeneration stage wherein a feed-forward circuit provides a sensed signal to modulate the trailing bias level in a direction opposite to the modulation caused by subsequent first-order charge transfer losses. Write: **PAT-APPL-6-232 093**, NTIS.

Grease Compositions Based on Fluorinated Polysiloxanes/311

Lubrifiants à base de polysiloxanes fluorés/311

Filed February 10, 1981, by the Department of the Air Force. This invention relates to grease compositions which have a fluorinated polysiloxane as a base fluid and containing an additive which imparts rust and corrosion resistance to the compositions. The present invention resides in the discovery that the addition of a small amount of certain benzimidazoles to a fluorinated polysiloxane base fluid and a thickener therefor provide a grease having unexpectedly outstanding properties. Thus, the resulting grease composition inhibits rust formation when utilized as a lubricant for ferrous metals under mild temperature and high humidity conditions. Furthermore, the grease inhibits corrosion when used as a lubricant for ferrous metals under high temperature conditions. In a more specific embodiment, the instant invention is concerned with a grease composition comprising (1) a major amount of a fluorinated polysiloxane base fluid, (2) a minor amount of a thickener for the base fluid, and (3) a rust and corrosion inhibiting amount of a benzimidazole. Write: **PAT-APPL-6-233 277**, NTIS.

Cylindrical Microwave Lens Antenna for Wideband Scanning Applications/311

Antenne hyperfréquence à lentille cylindrique pour balayage à large bande/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed February 23, 1981, by the Department of the Air Force. The bandwidth limitation in space fed phased arrays (that results from the use of phase shifters to implement beam steering) is overcome by a lens arrangement in which independent feeds are provided at the focal plane of the lens. Each feed generates a collimated beam in a different spatial direction. Each beam can then be steered about its central position by means of phase shifters, while retaining a substantially improved bandwidth. An algorithm is derived for designing three-dimensional (3D) microwave lenses with line source feeds by stacking a number of identical two-dimensional (2D) parallel-plate, wide angle constrained lenses into a cylindrical antenna structure. This lens design provides focused beams over a wide range of scan angles in both elevation and azimuth with only small optical aberration. A wide variety of lens designs can be achieved through this algorithm, dependent upon the constraints which are selected for the 2D lens counterpart. For one design, where all the transmission line lengths in the lens are made equal, the phase errors for beam scanning in the plane containing the cylindrical axis of the antenna are less than their broadside values, regardless of scan angle. This permits wide-angle coverage in both elevation and azimuth from a single lens with both good beam and quality and bandwidth. Write: **PAT-APPL-6-237 020**, NTIS.

A Broad Bandwidth Surface Acoustic Wave Filter Apparatus with Staggered Tuning/311

Filtre d'onde acoustique de surface à large bande à accord décalé/311

Filed March 3, 1981, by the Department of the Air Force. A broad bandwidth surface acoustic wave filter utilizing two broadband surface acoustic wave transducer pairs which individually comprise a single input and output. One pair of broadband surface acoustic wave (SAW) transducers is offset in frequency from a second pair of broadband SAW transducers. Each transducer is tuned with a single series inductor, and then both channels are connected electrically in parallel. The low frequency pair of transducers is tuned for maximum response below their synchronous frequency, and the high frequency pair of transducers is tuned for maximum response above their synchronous frequency. Write: **PAT-APPL-6-239 955**, NTIS.

Vibration Stabilized Image Projection System/311

Système de projection d'images stabilisé contre les vibrations/311

Filed March 3, 1981, by the Department of the Air Force. A vibration stabilized image projection system includes a viewing screen supported on a vibratory platform, an image projector supported off the platform in a relatively vibration-free environment for projecting an image toward the screen, and an image stabilizing lens interposed between the projector and screen for providing an optical link between them. The stabilizing lens is supported on the platform for undergoing vibratory movement therewith in X, Y, and/or Z planes and relative to the projector. The lens focuses the image at a stationary position on the screen as the stabilizing lens, screen and platform undergo vibratory movement relative to the projector. Write: **PAT-APPL-6-240 048**, NTIS.

An Improved System for Measuring Angular Deviation in a Transparency/311

Système amélioré de mesure des déviations angulaires de rayons traversant un transparent/311

Filed March 11, 1981, by the Department of the Air Force. An improved system for measuring absolute angular deviation through transparencies, such as aircraft windscreens, uses an incoherent light source and a target configuration in the form of an opaque slide with a transparent 'L'-shape pattern. The positions of images of the legs of the 'L' passed through the transparency are detected by CCD arrays for measurement of the azimuth and elevation components of angular deviation for each tested point on the transparency, uncontaminated by lateral displacement errors. Write: **PAT-APPL-6-242 816**, NTIS.

Improved Aerial Day/Night Refueling Stations/311

Système amélioré d'avitaillement en vol de jour et de nuit/311

Filed March 11, 1981, by the Department of the Air Force. An improved aerial refueling system, suitable for operation under nighttime or other limited visibility conditions, is described, and comprises a tanker aircraft with refueling boom depending rearwardly thereof, a receiver aircraft having a fuel receptable for interconnection with the boom, means disposed on the tanker for illuminating the receiver aircraft with infrared light during hookup and refueling, infrared sensitive viewing means and an optical imaging device on the tanker through which the boom operator may view the boom and receiver aircraft to guide the boom into position for connection with the receiver aircraft. Write: **PAT-APPL-6-242 817**, NTIS.

Quartz Resonator Processing System/311

Système de traitement des résonateurs au quartz/311

Filed August 1, 1980, by the Department of the Army. Disclosed is a single chamber ultra-high vacuum processing system for the production of hermetically sealed quartz resonators wherein electrode metallization and sealing are carried out along with cleaning and bake-out without any air exposure between the processing steps. The system includes a common vacuum chamber in which is located a rotatable wheel-like member which is adapted to move a plurality of individual component sets of a flat pack resonator unit past discretely located processing stations in said chamber whereupon electrode deposition takes place followed by the placement of ceramic covers over a flame containing a resonator element and then to a sealing stage where a pair of hydraulic rams including heating elements effect a metallized bonding of the covers to the flame. Write: **PAT-APPL-6-174 771**, NTIS.

Frequency-Agile, Polarization Diverse Microstrip Antennas and Frequency Scanned Arrays/311

Antennes à agilité de fréquence et à diversité de polarisation et réseaux d'antennes à balayage de fréquence/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed August 5, 1980, by the Department of the Army. An inexpensive, flush mounted microstrip antenna is disclosed which is frequency agile and has polarization diversity. The frequency and polarization of the antenna can be selected by selecting the location of shorting posts in the antenna. The use of switching diodes in place of shorting posts provides the means of electronically switching the frequency and polarization characteristics of the antenna. Frequency-agility provides frequency scannable microstrip antenna arrays which also have polarization diversity. Frequency-agility, polarization diversity and frequency scannable arrays are controllable by digital means such as a computer. Write: **PAT-APPL-6-175 543**, NTIS.

Selectable-Mode Microstrip Antenna and Selectable-Mode Microstrip Antenna Arrays/311

Antenne et réseau d'antennes microbande à sélection de mode/311

Filed October 20, 1980, by the Department of the Army. This invention relates generally to microstrip antennas and microstrip antenna arrays and is particularly directed to microstrip antennas and arrays which have selectable radiation patterns at a single frequency. This invention also provides polarization diversity in these selectable mode microstrip antennas and arrays. This invention is also particularly directed to selectable mode antennas and arrays that are frequency-agile. The selectable mode, frequency-agility and polarization diversity is achieved in a single microstrip patch. The microstrip antennas has been shown to be an excellent radiator for many applications requiring thin, inexpensive, conformal antennas which are rugged and have a low aerodynamic profile. However, many uses require a selectable radiation pattern. To achieve selectable mode capabilities in prior art antennas it was necessary to provide more than one microstrip patch, which was space and weight inefficient. For example, if it was desired to operate as a homing device and selectable mode capability was desired, it was necessary to provide alternate radiating patches of different dimensions. For many applications, such as direction finding, fuzing, beam splitting, side lobe cancelling and low-gain beam steering, it is often highly desirable, especially when dealing with projectiles, missiles, aircraft and radar, to have single conductive patch microstrip antennas that have the capability of exhibiting selectable radiation patterns at a single frequency. Write: **PAT-APPL-6-198 673**, NTIS.

Gas Sensor/311

Capteur de gaz/311

Filed November 6, 1980, by the Department of the Army. A variable resistance gas sensor controls the output frequency of a variable frequency tone generator. A tone decoder monitors the output frequency of the tone generator. When the gas concentration attains a predetermined threshold value, the tone decoder produces an output signal which activates a latch circuit to energize an alarm device. The latch circuit continues to energize the alarm device even after the gas concentration is reduced below the threshold value until manually reset. Write: **PAT-APPL-6-204 444**, NTIS.

Real-Time Transformation of Incoherent Light Image to Edge-Enhanced Darkfield Representation for Cross-Correlation Applications/311

Transformation en temps réel d'une image à lumière incohérente en une représentation à champ sombre et accentuation des contours pour corrélation croisée/311

Filed November 21, 1980, by the Department of the Army. Cross-correlation of an image with a reference pattern is done in order to determine recognizable content and gives a sharp correlation peak whenever both image and pattern are edge-enhanced, darkfield representations. Incoherent light, conventional optics and electronics are used to obtain edge-enhanced, darkfield representations which are obtained by sensing the light from the object through a dual-aperture unit to a lens so that a recording medium located forward of the focusing plane of the lens will receive light blocked alternately by the regular (perimeter) stop and the central stop and will record the difference. Write: **PAT-APPL-6-208 961**, NTIS.

Method of Coating a Ceramic Substrate/311

Méthode de revêtement d'un support en céramique/311

Filed December 5, 1980, by the Department of the Army. A ceramic substrate is rapidly coated with a uniform coating of copper by heating the ceramic substrate to about 250 C, adding an aqueous slurry of an inorganic copper salt to the ceramic substrate at that temperature, and heating the coated ceramic in a reducing atmosphere at about 800 C. Write: **PAT-APPL-6-213 435**, NTIS.

Radar Antenna System/311

Réseau d'antennes radar/311

Filed December 5, 1980, by the Department of the Army. This application discloses an antenna beam switching system comprising three antennas whose apertures are disposed in a common plane and which, by means of selective shunting of one or more phase shifters associated with each of the antennas, allows for three dimensional beam switching in at least four directions in space. Write: **PAT-APPL-6-213 436**, NTIS.

Hot-Wire Anemometer Gyro Pickoff/311

Prise de gyroscope d'anémomètre à fils chauffants/311

Filed December 5, 1980, by the Department of the Army. An arrangement of hot-wire anemometers is set partially into the rotor boundary layer so that they form two resistors of a wheatstone bridge circuit for each axis. The hot wire resistors change in resistance according to the angular offset from null of the gyro rotor. The combination of resistance changes is then used in the bridge circuit to provide an electrical signal which is directly proportional to gyro rotor angular offset. Write: **PAT-APPL-6-213 522**, NTIS.

A Nozzle Beam Source for Vapor Deposition/311

Source de faisceau de vaporisation avec ajutage/311

Filed December 15, 1980, by the Department of the Army. This application discloses a nozzle beam source for use in the vapor deposition of electrode materials such as gold, during the fabrication of precision quartz-crystal resonators, or the like. The nozzle beam source includes a graphite crucible and source tube, a tungsten wick within the source tube, and graphite-to-graphite mechanical seals. Write: **PAT-APPL-6-216 092**, NTIS.

EBS Device with Cold-Cathode/311

Dispositif semiconducteur à faisceau électronique utilisant une cathode froide/311

Filed December 15, 1980, by the Department of the Army. Apparatus and method are described for fabricating a long life cold cathode electron beam semiconductor device (EBS). Fabrication is given of a vacuum tube structure capable of sustaining sufficiently high vacuum over extended time to prevent poisoning of the cold cathode and steps are given for growth of a plural tip cold cathode structure. Write: **PAT-APPL-6-216 588**, NTIS.

Composite/Laminated Window for Electron-Beam Guns/311

Fenêtre composite/laminée pour canons électroniques/311

Filed December 29, 1980, by the Department of the Army. A composite/laminated window for electron-beam guns is comprised of a first material of a polyester film, a second material of a low-Z metal selected from the low-Z metals consisting of aluminum, beryllium, and titanium in intimate contact with the polyester film, and a plurality of fluid cooled, spaced apart foil support members for supporting and cooling the composite window. The metal layer provides for heat transmission of the heat deposited in the metal layer and the polyester film by the electron beam. The polyester film which has 3 to 4 times the strength of the metal layer provides the strength and transmission required for a window operating in a vacuum on the electron gun side and a high pressure on the laser cavity side when the electron beam gun is employed as the source of electrons to produce ionization in the laser cavity. Write: **PAT-APPL-6-220 321**, NTIS.

Adaptive Steerable Null Antenna Processor/311

Processeur d'orientation de l'angle de rayonnement nul d'un réseau d'antennes/311

Price per copy from NTIS: PC U.S. $8.00/MF U.S. $3.50, filed January 2, 1981, by the Department of the Army. An object of the invention is to provide a steerable null antenna processor, in which the null developed during reception is also maintained during transmission. According to the invention, a receive-transit steerable null antenna processor includes incrementally adjustable delay lines and a variable ratio power network (amplitude balance control) for adjusting the relative phase and amplitude in two or more antenna branches to steer a null on an interference source. A digital controller compares a signal which includes a representation of the interference level to a previously sampled value to note improvement or not and adjusts the delay lines and amplitude balance accordingly. Write: **PAT-APPL-6-222 104**, NTIS.

Thyratron Marx High Voltage Generator/311

Générateur de hautes tensions à thyratrons du type Marx/311

Filed January 12, 1981, by the Department of the Army. This invention relates to a high voltage pulse generator of the Marx type, in which capacitors are charged in parallel and discharged in series. amongst the many techniques for producing high voltage pulses, the Marx generator is probably the best known and most widely used. For the combination of short risetime and low output impedance (i.e. high power), large energy, high efficiency and waveform flexibility — the Marx principle is peerless. In response to the recognized need for a Marx generator capable of a high repetition rate, I have investigated Marx circuitry using modern thyratrons as the switching elements. Because of the relatively high voltage trigger requirements of spark gaps, Marx circuitry developed for these devices has concentrated on achieving a balance between hold-off reliability and triggering schemes that produce an orderly erection mode, so that predictable output pulses may be realized. High repetition rate capability, low voltage trigger requirements, and high reliability are well known thyratron characteristics when used in a conventional manner. However, particular problems arise with the use of thyratrons in a Marx circuit, such as both external and internal arcing, because of progressively increasing overvoltages. Write: **PAT-APPL-6-224 604**, NTIS.

Method and Apparatus for Tempering Glass/311

Méthode et appareil de trempe du verre/311

Filed January 19, 1981, by the Department of the Army. Open ended glassware is tempered by heating it almost to the softening point and then placing it in a gaseous tempering apparatus in which the inverted glassware is supported and cushioned on a stream of chilling gas directed at it from below, while another stream of chilling gas is directed at its exterior surfaces from above. Write: **PAT-APPL-6-226 342**, NTIS.

MBE Growth Technique for Matching Superlattices Grown on GaAs Substrates/311

Utilisation de la technique des faisceaux moléculaires pour la croissance de superstructures épitaxiales sur des substrats de GaAs/311

Filed January 23, 1981, by the Department of the Army. Misfit dislocation density at an InAs-GaAs interface is reduced in both InAs-GaSb and In(sub 1-x)Ga(sub x)As-GaSb(sub 1-y)As(sub y) superlattices grown on GaAs substrates by means of a MBE (molecular beam epitaxy) growth technique consisting of a step graded sequence of composition layers between substrate and superlattice whose composition changes in discrete concentration steps from the composition of the substrate to the composition of the superlattice. Write: **PAT-APPL-6-227 889**, NTIS.

InAs-GaSb Tunnel Diode/311

Diode tunnel à InAs-GaSb/311

Filed January 23, 1981, by the Department of the Army. Disclosed is a tunnel diode consisting of an accumulation region of p-type GaSb and an accumulation region of n-type InAs separated by a thin layer of a quarternary compound consisting of

InGaSbAs. Such a diode structure converts the interface between the two accumulation regions of p-type and n-type material from what would normally be an ohmic junction into a tunneling junction. Such a tunnel diode requires no heavy doping which is normally required for a tunnel diode. Write: **PAT-APPL-6-227 890**, NTIS.

Non-Volatile Semiconductor Memory/311

Mémoire non volatile à semiconducteurs/311

Filed January 30, 1981, by the Department of the Army. Non-volatile semiconductor matrix random access and electrically alterable programmable read-only memories are disclosed. Each memory cell of the matrix memory includes a photovoltaic ferroelectric element which is remanently polarized with a write signal, and which when illuminated, produces a photovoltage which causes a field effect transistor to assume one of two states. Variable impedance means, for example, at least a diode or a breakdown diode is connected in each cell for providing a low impedance when the write gate pulse is applied to the photovoltaic ferroelectric element and for providing a high impedance when the photovoltage produced by the photovoltaic ferroelectric element is applied to the field effect transistor gate. If power to the memory is lost, by illuminating the photovoltaic ferroelectric element, the field effect transistor may be caused to assume the state which it was in before loss of power. Write: **PAT-APPL-6-230 177**, NTIS.

Broadband Measurement System/311

Système de mesure à large bande/311

Filed February 2, 1981, by the Department of the Army. A system for making emission measurements of RF electromagnetic energy, such as interference, over a relatively wide bandwidth without tuning or scanning and without the knowledge of the specific signal characteristics of the emission under consideration by receiving and detecting the mission in the circuit configuration where the ratio (r) of the impulse signal response to CW signal response is a predetermined function of the pre-detection bandwith (BI) and the post-detection bandwidth (BO). Such a relationship will cause the response to all other types of emission to fall intermediate the impulse and CW signal response. Write: **PAT-APPL-6-230 558**, NTIS.

Millimeter Wave Power Limiter/311

Limiteur de puissance en ondes millimétriques/311

Filed February 12, 1981, by the Department of the Army. Disclosed is a millimeter wave bulk effect RF power limiter consisting of a planar PIN diode formed on a gallium arsenide (GaAs) substrate which also comprises the waveguide structure for RF energy in the 60-300GHz range. The PIN diode is comprised of a wedge of intrinsic type semiconductor material formed across the top surface of the substrate and having mutually opposing regions of p and n type semiconductor material fabricated in the side edges of the wedge to which is attached planar beam leads. With suitable electrical operating potentials applied to the PIN diode avalanche breakdown occurs at a critical RF power level which acts to limit the flow of RF energy flow in the structure past the location of the PIN diode. Such a structure permits the device to be integrated into the front end sections of receivers utilized in communications, missile guidance and radar systems operable in the millimeter and sub-millimeter frequency range. Write: **PAT-APPL-6-233 751**, NTIS.

Method of Angle Correcting Doubly Rotated Crystal Resonators/311

Méthode de correction d'angle des résonateurs à cristal à double rotation/311

Filed February 27, 1981, by the Department of the Army. Doubly rotated quartz crystal blanks such as the SC, IT and FC cuts have their apparent angles of cut and hence their frequency vs. temperature characteristics modified by changing the contours of one or both of the convex sides thereof, or by changing the electrode areas thereof; or a combination of these two changes. Write: **PAT-APPL-6-238 895**, NTIS.

Direct Ohmic Heating Device/311

Dispositif de chauffage par conversion ohmique directe/311

Filed March 11, 1981, by the Department of the Army. An apparatus is disclosed that will accomplish that rapid thawing and heating of frozen food blocks through direct ohmic heating. Electrodes made from an electrically conducting plastic make direct contact with the food, and ordinary AC power travels through the food. Write: **PAT-APPL-6-242 778**, NTIS.

Hybrid Velocity Derived Heading Reference System/311

Système hybride de référence de cap basé sur les données de vitesse d'un véhicule/311

Filed March 23, 1981, by the Department of the Army. This invention relates to a device and method which can be used in any type of moveable vehicle, be it aircraft, land vehicle or marine vessel, to provide a dependable and accurate true heading reference. It provides an accurate and constantly updated readout of the vehicles present direction of travel relative to the

earth's latitude and longitude coordinate system. The invention provides a novel and accurate true heading reference for vehicles which utilizes navigation satellite-derived velocities and other velocities derived from on-board equipment. Write: **PAT-APPL-6-246 518**, NTIS.

SC-Cut Quartz Resonators with Suppressed B-Mode/311

Résonateurs au quartz monocristallin sans mode B/311

Filed March 23, 1981, by the Department of the Army. Disc shaped quartz crystal resonators of plano-convex, plano-plano, and biconvex configurations have the b-mode resistance raised relative to the c-mode resistance by the proper choice of mounting geometry, thus suppressing the undesired b-mode in precision oscillator circuits without the use of added circuitry. Write: **PAT-APPL-6-246 519**, NTIS.

Low Thermal Stress Electrode/311

Électrode à faibles contraintes thermiques/311

Filed March 23, 1981, by the Department of the Army. A collector for use in a travelling wave tube includes a central metallic core that has a peripheral ceramic insulator with the central metallic core having a plurality of circumferentially spaced primary slots extending inwardly from the periphery and an equal number of secondary slots extending perpendicular to the primary slots adjacent the periphery of the electrode. The primary slots define a plurality of fingers and the secondary slots act as hinges for the fingers. Write: **PAT-APPL-6-246 785**, NTIS.

Planar Doped Barrier Semiconductor Device/311

Dispositif semiconducteur planaire à barrière dopée/311

Filed March 23, 1981, by the Department of the Army. Disclosed is a majority carrier rectifying barrier semiconductor device housing a planar doped barrier. The device is fabricated in GaAs by an epitaxial growth process which results in a N+ - i - p+ - i - n+ semiconductor structure wherein an extremely narrow p+ planar doped region is positioned in adjoining regions of nominally undoped (intrinsic) semiconductive material. The narrow widths of the undoped regions and the high densities of the ionized impurities within the space charge region results in rectangular and triangular electric fields and potential barriers, respectively. Independent and continuous control of the barrier height and the asymmetry of the current vs. voltage characteristics is provided through variation of the acceptor charge density and the undoped region widths. Additionally, the capacitance of the device is substantially constant with respect to bias voltage. Write: **PAT-APPL-6-246 787**, NTIS.

Method of Joining Boron Nitride to a Refractory/311

Méthode de liaison du nitrure de bore à un matériau réfractaire/311

Filed March 23, 1981, by the Department of the Army. Boron nitride is joined to a refractory at high temperatures by coating a surface of the boron nitride with a mixture of paintable consistency of molybdenum disilicide and polyisobutyl methacrylate in an organic solvent, allowing the coated boron nitride surface to air day, and placing the refractory in contact with the coated boron nitride surface and firing at a temperature above 1500 C in an inert atmosphere. Write: **PAT-APPL-6-247 567**, NTIS.

Drive Circuit for Matrix Displays/311

Circuit d'attaque pour affichage à matrices/311

Filed March 27, 1981, by the Department of the Army. Disclosed is a capacitive voltage divider drive circuit for electro-luminescent matrix displays comprised of, for example, thin film electroluminescent capacitance type elements. The drive circuit for each display element, which exhibits a relatively low capacitance, includes a relatively large series connected capacitor which couples a drive voltage there-across upon the closure of a first switching element. Due to voltage divider action, a relatively greater portion of the drive voltage appears across and energizes the display lement by exceeding its threshold voltage. Additionally, another relatively large capacitor is coupled in parallel with the display element upon the closure of a second switching element which, again due to voltage divider action, reduces the drive voltage thereacross below its energizing threshold level to deenergize it. The switching elements are comprised of semiconductor switch devices which are adapted to operate in timed relationship with a resonant AC drive voltage applied to the matrix. A plurality of row and column electrodes form the capacitive type display elements. Moreover, each row electrode in the matrix is connected to a respective first switching element while each column electrode is connected to a respective series capacitor as well as a respective parallel capacitor and second switching element. Write: **PAT-APPL-6-248 666**, NTIS.

Active Dielectric Waveguide Amplifier or Oscillator Using a High Density Charged Particle Beam/311

Amplificateur ou oscillateur à guide d'ondes et diélectrique actif, utilisant un faisceau de particules chargées à haute densité/311

Filed April 17, 1981, by the Department of the Army. A circuitless particle beam device for relatively high frequency amplifier or oscillator applications that eliminates the requirement for an internal RF slow wave structure. A circularly polarized RF energy wave propagates on a relatively high density particle beam within an oversized waveguide and interacts with the beam which exhibits a relatively high dielectric constant. The high density beam acts as an active dielectric waveguide serving the dual purpose of a slow wave circuit and amplification source, and accordingly guides and amplifies the RF energy when a condition of beam and wave synchronism is met. Write: **PAT-APPL-6-255 121**, NTIS.

Method of Metallizing a Ceramic Substrate/311

Méthode de métallisation d'un support en céramique/311

Filed May 1, 1981, by the Department of the Army. This invention relates in general to a method of metallizing a ceramic substrate and in particular to a method of metallizing a beryllia substrate in such a manner as to provide a metallized substrate ready for brazing to metal parts without the use of brazing shims. Write: **PAT-APPL-6-259 873**, NTIS.

Broadband RF Isolator/311

Isolateur RF à large bande/311

Filed May 5, 1981, by the Department of the Army. A broadband RF isolator system for connection between RF devices such as colinear antennas is disclosed. In accordance with this invention, two or more antennas are spaced several wavelengths apart, connected to coaxial feeds and choked at their adjacent ends to establish the electrical length. In one embodiment of the invention, the isolator is formed by placing a second line adjacent the coaxial line connected to the upper antenna. The addition of this second line forms a balanced transmission line having a given characteristic impedance. The second line is terminated at one end by a resistor having a resistance equal to the value of the characteristic impedance. In a second embodiment the second line is replaced by a coaxial sleeve which is also terminated at one end with a resistor having a resistance value equal to the characteristic impedance. In four additional embodiments, which are essentially variations of the second basic embodiment, coaxial sleeves are also utilized to form the isolation system. Write: **PAT-APPL-6-260 630**, NTIS.

Harmonic Generator/311

Générateur d'harmoniques/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed May 6, 1981, by the Department of the Army. This application discloses a harmonic frequency generator responsive to an input signal of frequency f which changes slowly in both frequency and amplitude and characterized in that: (1) the output signal (harmonic) amplitude remains proportional to the input signal amplitude; and (2) the output frequency nf of the output signal consists solely of one integral (n 1) multiple of the input signal frequency. Write: **PAT-APPL-6-260 868**, NTIS.

Method for Producing Carbocyclic Compounds/311

Préparation de composés carbocycliques/311

Filed March 26, 1981, by the Department of Commerce. A method is provided for producing a carbocyclic compound by contacting an organic compound containing a 4-8 membered cyclic sulfide with ozone, in the vapor phase, and recovering a product containing a 3-7 membered carbocyclic ring. Write: **PAT-APPL-6-247 684**, NTIS.

Echometry Device and Method/311

Dispositif et méthode d'échométrie/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed May 7, 1981, by the Department of Commerce. This invention provides devices and methods for accurate and dependable remote measurement of temperature at predetermined points in a fluid medium, such as the atmosphere or oceans, through the use of propagated waves, such as acoustic or electromagnetic waves, and interferometric principles. Waves are transmitted to form constructive interference fringes and reflected waves received at a receiver from predetermined points in the constructive interference fringes are processed to obtain the mean phase with the analog signal being sampled and the resulting digital signal used to determine temperature changes or absolute temperature at the predetermined points. Write: **PAT-APPL-6-261 415**, NTIS.

Pneumatic Adhesion Tester/311

Appareil d'essai d'adhésion pneumatique/311

Filed June 11, 1981, by the Department of Commerce. The tester comprises a fixture which is bonded to a coating or surface, and a plate and a membrane which are sealed together along their peripheries. A hole extends through the membrane

and at least into the plate for receiving the fixture so that its bonding surface is flush with the membrane. The plate has a gas opening which is connectable with a source of pressurized gas. Write: **PAT-APPL-6-272 231**, NTIS.

Thermochemical Cyclic System for Decomposing H Sub 2 O and/or CO Sub 2 by Means of Cerium-Titanium-Sodium-Oxygen Compounds/311

Système cyclique thermochimique pour décomposer des H sub 2 O ou des CO sub 2 à l'aide de composés du cérium-titane-sodium-oxygène/311

Filed April 24, 1980, by the Department of Energy. A thermochemical closed cyclic process for the decomposition of water and/or carbon dioxide to hydrogen and/or carbon monoxide begins with the reaction of ceric oxide (CeO sub 2), titanium dioxide (TiO sub 2) and sodium titanate (Na sub 2 TiO sub 3) to form sodium cerous titanate (NaCeTi sub 2 O sub 6) and oxygen. Sodium cerous titanate (NaCeTi sub 2 O sub 6) reacted with sodium carbonate (Na sub 2 CO sub 3) in the presence of steam, produces hydrogen. The same reaction, in the absence of steam, produces carbon monoxide. The products, ceric oxide and sodium titanate, obtained in either case, are treated with carbon dioxide and water to produce ceric oxide, titanium dioxide, sodium titanate, and sodium bicarbonate. After dissolving sodium bicarbonate from the mixture in water, the remaining insoluble compounds are used as starting materials for a subsequent cycle. The sodium bicarbonate can be converted to sodium carbonate by heating and returned to the cycle. Write: **PAT-APPL-6-143 253**, DOE.

Cryogenic Method for Measuring Nuclides and Fission Gases/311

Méthode cryogénique de mesure des radionucléides et des gaz de fission/311

Filed May 2, 1980, by the Department of Energy. A cryogenic method is provided for determining airborne gases and particulates from which gamma rays are emitted. A special dewar counting vessel is filled with the contents of the sampling flask which is immersed in liquid nitrogen. A vertically placed sodium-iodide or germanium-lithium gamma-ray detector is used. The device and method are of particular use in measuring and identifying the radioactive noble gases including emissions from coal-fired power plants, as well as fission gases released or escaping from nuclear power plants. Write: **PAT-APPL-6-145 643**, DOE.

Electrode for Electrochemical Cell/311

Électrode pour pile électrochimique/311

Filed May 9, 1980, by the Department of Energy. An electrode structure for a secondary electrochemical cell includes an outer enclosure defining a compartment containing electrochemical active material. The enclosure includes a rigid electrically conductive metal sheet with perforated openings over major side surfaces. The enclosure can be assembled as first and second trays each with a rigid sheet of perforated electrically conductive metal at major side surfaces and normally extending flanges at parametric margins. The trays can be pressed together with moldable active material between the two to form an expendable electrode. A plurality of positive and negative electrodes thus formed are arranged in an alternating array with porous frangible interelectrode separators within the housing of the secondary electrochemical cell. Write: **PAT-APPL-6-148 312**, DOE.

Single Crystal Metal Wedges for Surface Acoustic Wave Propagation/311

Coins de métal monocristallin pour la propagation d'ondes sonores de surface/311

Filed May 9, 1980, by the Department of Energy. An ultrasonic testing device has been developed to evaluate flaws and inhomogeneities in the near-surface region of a test material. A metal single crystal wedge is used to generate high frequency Rayleigh surface waves in the test material surface by conversion of a slow velocity, bulk acoustic mode in the wedge into a Rayleigh wave at the metal-wedge test material interface. Particular classes of metals have been found to provide the bulk acoustic modes necessary for production of a surface wave with extremely high frequency and angular collimation. The high frequency allows flaws and inhomogeneities to be examined with greater resolution. The high degree of angular collimation for the outgoing ultrasonic beam permits precision angular location of flaws and inhomogeneities in the test material surface. Write: **PAT-APPL-6-148 313**, DOE.

Electrochemical Cell Method/311

Méthode de préparation d'une pile électrochimique/311

Filed May 9, 1980, by the Department of Energy. A secondary electrochemical cell is prepared by providing positive and negative electrodes having outer enclosures of rigid perforated electrically conductive material defining an internal compartment containing the electrode material in porous solid form. The electrodes are each immersed in molten electrolyte. Following solidification of the electrolyte substantially throughout the porous volume of the electrode material, the elec-

trodes are arranged in an alternating positive-negative array with interelectrode separators of porous frangible electrically insulative material. The completed array is assembled into the cell housing and sealed such that on heating the solidified electrolyte flows into the interelectrode separator. Write: **PAT-APPL-6-148 325**, DOE.

Transient Stability Enhancement of Electric Power Generating Systems by 120-Degree Phase Rotation/311

Amélioration de la stabilité transitoire des ensembles de production de courant par succession de phase à 120 degrés/311

Filed May 12, 1980, by the Department of Energy. A method and system for enhancing the transient stability of an intertied three-phase electric power generating system. A set of power exporting generators is connected to a set of power importing generators. When a transient cannot be controlled by conventional stability controls, and imminent loss of synchronism is detected (such as when the equivalent rotor angle difference between the two generator sets exceeds a predetermined value, such as 150 degrees), the intertie is disconnected by circuit breakers. Then a switch having a 120-degree phase rotation, or a circuit breaker having a 120-degree phase rotation is placed in the intertie. The intertie is then reconnected. This results in a 120-degree reduction in the equivalent rotor angle difference between the two generator sets, making the system more stable and allowing more time for the conventional controls to stabilize the transient. Write: **PAT-APPL-6-148 863**, DOE.

Improved Solar Heating Systems/311

Systèmes améliorés de chauffage solaire/311

Filed May 16, 1980, by the Department of Energy. An improved solar heating system is described in which the incident radiation of the sun is absorbed on collector panels, transferred to a storage unit and then distributed as heat for a building and the like. The improvement is obtained by utilizing a storage unit comprising separate compartments containing an array of materials having different melting points ranging from 75 to 180 exp 0 F. The materials in the storage system are melted in accordance with the amount of heat absorbed from the sun and then transferred to the storage system. An efficient low volume storage system is provided by utilizing the latent heat of fusion of the materials as they change states in storing and releasing heat for distribution. Write: **PAT-APPL-6-150 394**, DOE.

Apparatus and Method for Downhole Injection of Radioactive Tracer/311

Appareil et méthode d'injection d'un traceur radioactif/311

Filed June 16, 1980, by the Department of Energy. The disclosure relates to downhole injection of radioactive exp 82 Br and monitoring its progress through fractured structure to determine the nature thereof. An ampule containing granular exp 82 Br is remotely crushed and water is repeatedly flushed through it to cleanse the instrument as well as inject the exp 82 Br into surrounding fractured strata. A sensor in a remote borehole reads progress of the radioactive material through fractured structure. Write: **PAT-APPL-6-159 890**, DOE.

NO/Sub X/Control and Recovery from Products of Combustion/311

Élimination des NO/sub X/du milieu atmosphérique et récupération de ces substances des produits de combustion/311

Filed June 20, 1980, by the Department of Energy. The disclosed method for removing nitric oxide and or nitrogen dioxide (NO/sub x)/) from a gaseous stream comprises the step of intimately mixing sodium or potassium carbonate and either ferric oxide or manganese dioxide. The gaseous stream containing NO/sub x/ is subsequently brought into contact with the mixture at a temperature between 300 exp 0 C and 500 exp 0 C to cause absorption of the NO/sub x/ in the mixture. Nitric oxide can be desorbed from the mixture by elevating its temperature or by other chemical processes. It is also possible to return the concentrated NO/sub x/ gaseous products to the procuding combustion chamber for decomposition at the equilibrium concentration at the combustion chamber temperature. It is a first object of this disclosure to provide an effective solid sorbent for NO/sub x/ in a gaseous stream, the sorbent being produced by simple mixing without requiring further preprocessing of the chemicals before or after their mixture. Another object of this invention is to provide a solid sorbent having higher absorbing capabilities than those previously reported. Another object is to provide a solid sorbent which is effective in gaseous streams containing substantial quantities of either carbon dioxide or oxygen. Write: **PAT-APPL-6-161 482**, DOE.

Electrochemically Controlled Charging Circuit for Storage Batteries/311

Circuit de charge d'accumulateurs à commande électrochimique/311

Filed June 24, 1980, by the Department of Energy. An electrochemically controlled charging circuit for charging storage batteries is disclosed. The embodiments disclosed utilize dc amplification of battery control current to minimize total

energy expended for charging storage batteries to a preset voltage level. The circuits allow for selection of Zener diodes having a wide range of reference voltage levels. Also, the preset voltage level to which the storage batteries are charged can be varied over a wide range. Write: **PAT-APPL-6-162 478**, DOE.

Capacitance-Level/Density Monitor for Fluidized-Bed Combustor/311

Moniteur de densité/niveau à capacité pour les appareils à lit fluidisé/311

Filed June 26, 1980, by the Department of Energy. A multiple segment three-terminal type capacitance probe with segment selection, capacitance detection and compensation circuitry and read-out control for level/density measurements in a fluidized-bed vessel is provided. The probe is driven at a high excitation frequency of up to 500 kHz to sense quadrature (capacitive) current related to probe/vessel capacitance while being relatively insensitive to the resistance current component. Compensation circuitry is provided for generating a negative current of equal magnitude to cancel out only the resistive component current. Clock-operated control circuitry separately selects the probe segments in a predetermined order for detecting and storing this capacitance measurement. The selected segment acts as a guarded electrode and is connected to the read-out circuitry while all unselected segments are connected to the probe body, which together form the probe guard electrode. The selected probe segment capacitance component signal is directed to a corresponding segment channel sample and hold circuit dedicated to that segment to store the signal derived from that segment. This provides parallel outputs for display, computer input, etc., for the detected capacitance values. The rate of segment sampling may be varied to either monitor the dynamic density profile of the bed (high sampling rate) or monitor average bed characteristics (slower sampling rate). Write: **PAT-APPL-6-163 368**, DOE.

Hot Water Tank for Use with a Combination of Solar Energy and Heat-Pump Desuperheating/311

Chauffe-eau jumelé à un capteur solaire et à un désurchauffeur de pompe à chaleur/311

Filed June 25, 1980, by the Department of Energy. A water heater or system is described which includes a hot water tank having disposed therein a movable baffle to function as a barrier between the incoming volume of cold water entering the tank and the volume of heated water entering the tank which is heated by the circulation of the cold water through a solar collector and/or a desuperheater of a heat pump so as to optimize the manner in which heat is imparted to the water in accordance to the demand on the water heater or system. A supplemental heater is also provided and it is connected so as to supplement the heating of the water in the event that the solar collector and/or desuperheater cannot impart all of the desired heat input into the water. (ERA citation 06:15504) Write: **PAT-APPL-6-163 449**, DOE.

Method and an Apparatus for Non-Invasively Determining the Quantity of an Element in a Body Organ/311

Méthode et appareil de dosage sans lésion d'un élément dans un organe/311

Filed June 27, 1980, by the Department of Energy. An apparatus and a method for determining in a body organ the amount of an element with the aid of a gaseous gamma ray source, where the element and the source are paired in predetermined pairs, and with the aid of at least one detector selected from the group consisting of Ge(Li) and NaI(Tl). Gamma rays are directed towards the organ, thereby resonantly scattering the gamma rays from nuclei of the element in the organ; the intensity of the gamma rays is detected by the detector; and the amount of the element in the organ is then substantially proportional to the detected intensity of the gamma rays. Write: **PAT-APPL-6-163 897**, DOE.

4a-Aryl-Decahydrosioquinolines/311

4a-aryl-décahydroisoquinoléines/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed January 14, 1981, by the Department of Health and Human Services. This invention relates to the production of 4a-aryldecahydroisoquinolines where the aryl group is selected as 3-methoxy phenyl and intermediates. These compounds are morphine analogs and show utility similar to the known morphine, codeine, and thebaine. Write: **PAT-APPL-6-224 957**, NTIS.

Method and Apparatus for Preparative Countercurrent Chromatography Employing a Rotating Column Assembly/311

Méthode et matériel pour la préparation par chromatographie à contre-courant à l'aide d'un ensemble tournant de colonnes/311

Filed February 2, 1981, by the Department of Health and Human Services. This invention relates to systems for performing preparative countercurrent chromatography, and more particularly to a system for continuous flow-through countercurrent chromatography of the type employing horizontal coiled helical tubular, or similar, arrays rotating on individual horizontal longitudinal axes and simultaneously revolving around a common central horizontal longitudinal axis. Write: **PAT-APPL-6-230 498**, NTIS.

Anastigmatic High Magnification, Wide-Angle Binocular Indirect Attachment for Laser Photocoagulator/311

Accessoire stéréoscopique grand-angle, indirect, anastigmatique et à fort pouvoir d'agrandissement, pour photocoagulateur à laser/311

Filed February 27, 1981, by the Department of Health and Human Services. The patent application relates to photocoagulation of the human eye and, more particularly, to improved methods and apparatus for laser photocoagulation. Write: **PAT-APPL-6-239 015**, NTIS.

Macula-Disc Camera with Improved Resolution/311

Appareil pour photographier la macula, à pouvoir séparateur amélioré/311

Filed March 2, 1981, by the Department of Health and Human Services. The patent application relates to ophthalmoscopic cameras in general and, more particularly, to a macula-disc camera having improved resolution. In order to increase the resolution of retinal detail in fundus cameras it is necessary to increase the magnification and thereby clarify microscopic details. In the prior art, greater magnification has been realized only by increasing the magnification of the recording camera, thereby magnifying one part of the intermediate aerial image without changing the objective (i.e. ophthalmoscopic lens) of the fundus camera. Write: **PAT-APPL-6-239 448**, NTIS.

Laboratory Rat Feeder/311

Appareil pour nourrir les rats de laboratoire/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed March 26, 1981, by the Department of Health and Human Services. The patent application relates to a feeding device and feed storage hopper for laboratory rats which device is used for experimental purposes, and more particularly to such device which restricts bodily entry of the rats into the feeder device. Write: **PAT-APPL-6-247 713**, NTIS.

Neisseria Gonorrhoeae Vaccine/311

Vaccin contre Neisseria gonorrhoeae/311

Filed May 27, 1981, by the Department of Health and Human Services. The patent application is directed to a prophylactic vaccine effective against Neisseria gonorrhoeae (N.g.) and consequent infection therefrom. Specifically, the instant invention is directed to a fragment of pili protein obtained from gonococci, a method of isolating and purifying same, and a vaccine prepared therefrom. Write: **PAT-APPL-6-267 538**, NTIS.

Electrochemical Apparatus for Simultaneously Monitoring Two Gases/311

Appareillage électrochimique pour le contrôle simultané de deux gaz/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed August 14, 1980, by the Department of the Interior. This invention relates to monitors for quantitatively indicating the presence of gases and more specifically to a novel electrochemical gas monitor for simultaneously determining the concentrations of two different gases in a sample of ambient air. Write: **PAT-APPL-6-177 978**, NTIS.

Multilayer Pressure Vent for Explosion Proof Enclosures/311

Trappe de sûreté multicouche pour enceintes antidéflagrantes/311

Filed December 5, 1980, by the Department of the Interior. The patent application describes a pressure vent for an explosion proof container. The vent allows a high flow rate of gases to pass from the container while arresting flames and cooling exiting hot gases therein. This precludes the build-up of high peak pressures inside the container. Structurally the vent has a protective cover mounted to the container by a knife hinge on one side and closed by imbedded magnets on the opposite side. In addition, the vent has multilayered material mounted in the same container opening near the interior of the container. A layer of porous stainless steel foam with multiple layers of stainless steel screen is used for this vital multilayered material. The optimum embodiment is obtained by preselecting a relationship between the free space volume inside the enclosed container, the number of layers in the prefilter section of the vent, and the cross sectional area of the vent. Write: **PAT-APPL-6-213 446**, NTIS.

Ring Bar Grizzly/311

Trémie à anneau/311

Filed December 15, 1980, by the Department of the Interior. The patent application relates to a ring bar grizzly used as a materials handling device to enable the jam-free transfer of loose rocks or other materials at the discharge end of a generally horizontal conveyor. Normally, this ring bar grizzly is used in conjunction with a horizontally fed machine, such as

a rotary jaw rock crusher, or simply to affect the horizontal transfer of material from one generally horizontal conveyance to another. Several loosely fitting rings are mounted on a static bar which is located between the conveyor and the crusher and which spans the width of the inlet to the crusher. Jams which would normally take place between the conveyor and the crusher rotor are eliminated because the freely suspended rings support the medium and large size pieces of rock in the feed, allowing them to pass over the transfer point and into the crusher. Fines and undersized rocks are allowed to drop freely through the ring bar grizzly. Write: **PAT-APPL-6-216 585**, NTIS.

Calibrateable Light Ray Scattering Reference Rod/311

Barre de référence réglable, diffusant la lumière/311

Filed December 24, 1980, by the Department of the Interior. A calibrateable light ray scattering reference rod utilized in a light scattering dust monitor. This light ray rod scatters an amount of light equivalent to a given concentration of dust. Adjustability is provided so that several concentrations of dust can be represented. This adjustment is accomplished by moving a threaded opaque slug axially inside the translucent rod. Write: **PAT-APPL-6-219 704**, NTIS.

Identification of Chrysotile/311

Caractérisation de la chrysotile/311

Filed February 25, 1981, by the Department of the Interior. Chrysotile asbestos is selectively identified in construction and insulation materials by staining with an aqueous alcoholic solution of sodium hyroride and Clayton Yellow dye. Chrysotile fibers are identified by the reddish-orange complex formed by reaction of the dye and magnesium in the chrysotile structure. Write: **PAT-APPL-6-237 818**, NTIS.

A System for Maintaining High Resonance during Sonic Agglomeration/311

Système servant à maintenir une résonance élevée durant une agglomération sonique/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed February 25, 1981, by the Department of the Interior. This invention relates to the control of fine particulate by sonic agglomeration and more particularly to a system for maintaining high resonance during the sonic agglomeration of the particulate. Write: **PAT-APPL-6-238 191**, NTIS.

Thermal Barrier Coating System Having Improved Adhesion/311

Système de dépôt de couche à barrière thermique à adhésion améliorée/311

Filed January 28, 1981, by NASA. A metallic bond coat on a substrate is primer coated by depositing an ion sputtered ceramic film. A ceramic thermal barrier coating is then plasma-sprayed onto this primer film. The sputter deposited primer coating improves the integrity and strength of the interface between the plasma-sprayed ceramic layer and metallic bond coat. Improvement of the integrity of the interface insures stronger adherence between the metal and the ceramic. Write: **PAT-APPL-6-229 233**, 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, U.S.A.

Advanced Inorganic Separators for Alkaline Batteries and Method of Making Same/311

Description et méthode de fabrication de séparateurs inorganiques perfectionnées pour piles alcalines/311

Filed February 27, 1981, by NASA. A method of forming a flexible, porous battery separator comprising a coating applied to a porous, flexible substrate is discussed. The coating comprises: (1) a thermoplastic rubber based resin which is insoluble and unreactive in the alkaline electrolyte; (2) a polar organic plasticizer which is reactive with the alkaline electrolyte to produce a reaction product which contains a hydroxyl group and/or a carboxylic acid group; and (3) a mixture of polar particulate filler materials which are unreactive with the electrolyte. The mixture comprises at least one first filler material, wherein the volume of the mixture of filler materials is less than 45% of the total volume of the fillers and the binder, the filler surface area per gram of binder is about 20 to 60 sq m/gr, and the amount of plasticizer is sufficient to coat each filler particle. Write: **PAT-APPL-6-238 790**, 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, U.S.A.

Laser Surface Fusion of Plasma Sprayed Ceramic Turbine Seals/311

Fusion superficielle au laser de joints de turbine en céramique revêtus de plasma/311

Filed March 11, 1981, by NASA. An abradable lining that is deposited on a shroud forming a gas path seal in turbomachinery is described. Improved thermal shock resistance is effected through the deliberate introduction of microcracks which will

not propagate appreciably upon exposure to the thermal shock environment in which a turbine seal must function. The microcracks are introduced by laser surface fusion treatment of the ceramic. The ceramic surface is laser scanned to form a continuous dense layer. As this layer cools and solidifies, shrinkage results in the formation of a very fine crack network which precludes the formation of a catastrophic crack during thermal shock exposure. Write: **PAT-APPL-6-242 795**, 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, U.S.A.

Heat Pipes Containing Alkali Metal Working Fluid/311

Caloducs à métaux alcalins comme fluide de travail/311

Filed March 16, 1981, by NASA. The improvement of high temperature evaporation condensation heat transfer devices which have important and unique advantages in terrestrial and spade energy processing is discussed. The device is in the form of a heat pipe comprising a sealed container or envelope which contains a capillary wick. The temperature of one and of the heat pipe is raised by the input of extremely hot and corrosive heat from an external heat source. A working fluid of a corrosive alkali metal, transfers this heat to a heat receiver remote from the heat source. The container and wick are fabricated from a superalloy containing a small percentage of corrosion inhibiting or gettering element. Lanthanum, scandium, yttrium, thorium, and hafnium are utilized as the alloying metal. Write: **PAT-APPL-6-243 682**, 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, U.S.A.

Method for Depositing an Oxide Coating/311

Méthode d'application d'un revêtement d'oxyde/311

Filed March 23, 1981, by NASA. A metal oxide coating is plated onto a metal substrate at the cathode from an acid solution which contains an oxidizing agent. The process is particularly useful for producing solar panels. Conventional plating at the cathode avoids the presence of oxidizing agents. Coatings made in accordance with the invention are stable both at high temperatures and while under the influence of high photon flux in the visible range. Write: **PAT-APPL-6-246 772**, 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, U.S.A.

Ladder Supported Ring Bar Circuit/311

Circuit à anneaux et barres disposés en échelle/311

Filed April 3, 1981, by NASA. An improved slow wave circuit especially useful in backward wave oscillators is comprised of rings disposed between and attached to respective stubs which are themselves attached to opposing sidewalls of the waveguide. To the end that opposed, interacting magnetic fields will be established to provide a very high coupling impedance for the slow wave structure, axially oriented bars are connected between rings in alternate spaces and adjacent to the attachment points of stubs. Similarly, axial bars are connected between rings in the spaces which do not include bars and at points adjacent to the attachment of bars. The rings may be half rings of 180 deg arc and may be formed of flat metal ribbons. Write: **PAT-APPL-6-251 009**, 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, U.S.A.

Aircraft Body-Axis Rotation Measurement System/311

Dispositif de mesure de la rotation d'un aéronef sur son axe longitudinal/311

Filed March 11, 1981, by NASA. A two-gyro four-gimbal attitude sensing system providing continuous azimuth information as the aircraft turns on its roll axis while the near vertical flight, and for preventing tumble of platforms in gyro systems upon departure from near vertical flight, is described. The provision of continuous azimuth information allows recovery from vertical on a desired heading. The system is comprised of means for stabilizing an outer roll gimbal that is common to a vertical gyro and a directional gyro with respect to the aircraft platform which is being angularly displaced about an axis substantially parallel to the outer roll gyro axis, and means for producing a signal indicative of the magnitude of such displacement as an indication of aircraft heading. Means are provided to cause stabilization of the outer roll gimbal prior to entering vertical flight and destabilization of the outer roll gimbal when departing vertical flight. Write: **PAT-APPL-6-242 790**, NASA, Hugh L. Dryden, Flight Research Center, Edwards, California 93523 and send a copy of your initial correspondence to Canadian Consulate General, 510 West Sixth Street, Los Angeles, California 90014, U.S.A.

Aircraft Canopy Lock/311

Dispositif de verrouillage de verrière d'avion/311

Filed March 30, 1981, by NASA. A manually-operable lock for releasably securing a canopy in closed condition is characterized by (1) a pair of dogs mounted in fore-and-aft alignment on the wall of the cockpit of an aircraft; (2) a pair of dog

receivers mounted on the canopy in juxtaposition with the dogs when the canopy is in its closed condition; (3) a dog-actuating arm including internal and external arm components, respectively, supported for oscillation about a common axis and pivotally connected to the dogs through a pitman rod for pivotally displacing the dog; (4) a spring-loaded pin mounted on the arm and adapted to be ramp-cammed and positioned in coaxial alignment with a receiving bore, when the arm is at the limit of its forward throw; and (5) pin-release means including external and internal components, respectively, for releasing the arm for pivotal displacement. Write: **PAT-APPL-6-248 744**, NASA, Hugh L. Dryden Flight Research Center, Edwards, California 93523 and send a copy of your initial correspondence to Canadian Consulate General, 510 West Sixth Street, Los Angeles, California 90014, U.S.A.

Linear Magnetic Bearing/311

Palier magnétique linéaire/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed December 8, 1980, by NASA. A linear magnetic bearing system having electromagnet vernier flux paths in shunt relation with permanent magnets, so that the vernier flux does not traverse the permanent magnet, is described. Novelty is believed to reside in providing a linear magnetic bearing having electromagnet flux paths that bypass high reluctance permanent magnets. Particular novelty is believed to reside in providing a linear magnetic bearing with a pair of axially spaced elements having electromagnets for establishing vernier x and y axis control. The magnetic bearing system has possible use in connection with a long life reciprocating cryogenic refrigerator that may be used on the space shuttle. Write: **PAT-APPL-6-214 361**, NASA, Goddard Space Flight Center, Mail Code: 204, Greenbelt, Maryland 20771 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102, U.S.A.

Geodetic Distance Measuring Apparatus/311

Appareil géodésique de mesure des distances/311

Filed December 19, 1980, by NASA. A geodetic distance measuring apparatus which compensates for the refractive index of the atmosphere is discussed. A mode locked laser system with a laser device and its peripheral components is utilized to derive two mutually phase locked optical wavelength signals and one phase locked microwave CW signal which respectively traverse the same distance measurement path. The optical signals are comprised of pulse type signals. Phase comparison of the two optical wavelength pulse signals is used to provide the dry air density while phase comparison of one of the optical wavelength pulse signals and the microwave CW signal issued to provide wet or water vapor density of the air. The distance to be measured corrected for the atmospheric dry air and water vapor densities in the measurement path is computed from these measurements. A time interval unit is included for measuring transit time of individual optical pulses for resolving the phase ambiguity needed with the phase measurements to give the true target distance. Write: **PAT-APPL-6-218 586**, NASA, Goddard Space Flight Center, Mail Code: 204, Greenbelt, Maryland 20771 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102, U.S.A.

Apparatus for and Method of Compensating Dynamic Unbalance/311

Appareillage et méthode de compensation du déséquilibre dynamique/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed February 27, 1981, by NASA. An apparatus to stabilize a fine platform that carries a parabolic reflecting dish, utilized in connection with the large aperture, multichannel microwave radiometer, is discussed. It provides compensation for dynamic unbalance imparted to a fixed body by a shaft about which the rotating body rotates. Force components exerted on the fixed body by the rotating body in a plane at right angles to the axis are determined. In response to the determined force components, the rotational speed and effective direction of mass means mounted on the rotating body are controlled. The mass means has an effective axis of rotation in a plane at right angles to the longitudinal axis. Write: **PAT-APPL-6-238 888**, NASA, Goddard Space Flight Center, Mail Code: 204, Greenbelt, Maryland 20771 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102, U.S.A.

Unidirectional Flexural Pivot/311

Pivot à flexion orientée/311

Filed March 16, 1981, by NASA. A flexural pivot type bearing is described. A pair of generally coaxial mutually rotatable cylindrical outer ring members are held in spaced apart relationship by three parallelogram shaped relatively thin, flexible, flat planar spring elements which are substantially inextensible in length and are joined to the inside of the outer ring members and held in position by accurate inner ring segments, three for each outer ring member, which respectively span an arc of substantially 120 deg. The parallelogram shape of the spring elements provides a slanted interconnection between the outer ring members. The direction of slant determines in which direction the spring elements can flex or bend unidirectionally to relieve the compression stress imparted thereto by any angular rotation of the outer ring members. Novelty is believed to reside in one or more parallelogram shaped spring elements which are joined to a pair of mutually rotatable generally cylindrical pivot members at nondiametrically opposing attachment points. Write: **PAT-APPL-6-243 684**, NASA, Goddard Space Flight Center, Mail Code: 204, Greenbelt, Maryland 20771 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102, U.S.A.

Heat Pipe Cooled Probe/311

Sonde refroidie par caloduc/311

Filed February 13, 1981, by NASA. The basic heat pipe principle is employed to provide a self-contained passively cooled probe that may be placed into a high temperature environment. The probe consists of an evaporator region of a heat pipe and a sensing instrument. Heat is absorbed as the working fluid evaporates in the probe. The vapor is transported to the vapor space of the condenser region. Heat is dissipated from the condenser region and fins causing condensation of the working fluid, which returns to the probe by gravity and the capillary action of the wick. Working fluid, wick and condenser configurations, and structural materials can be selected to maintain the probe within an acceptable temperature range. Write: **PAT-APPL-6-234 222**, 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, U.S.A.

Apparatus for Determining Changes in Limb Volume/311

Appareil servant à la détermination des changements de volume des membres/311

Filed February 10, 1981, by NASA. A measuring apparatus for determining changes in the volume of limbs or other body extremities by determining the cross-sectional area of such limbs is described. It is comprised of a transmitter including first and second transducers and a receiver for positioning on the surface of the limb. The distances between the receiver crystal and the first and second transducers are represented by respective first and second chords (d sub 1 d sub 2) of the cross-section of the limb and the predetermined distance between the first and second transducers is represented by a third chord (d sub 3). The measuring apparatus also includes a Pinger and associated electrical circuitry for generating acoustic pulses at the transducers. The travel time of the acoustic pulses along the D sub 1, D sub 2 chords is derived. A computer is connected to the receiver for computing the area of the limb cross-section utilizing these signals. Write: **PAT-APPL-6-233 270**, 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, U.S.A.

Apparatus for Fiber Optic Liquid Level Sensing/311

Sonde à fibres optiques pour la détermination du niveau des liquides/311

Filed February 19, 1981, by NASA. A liquid level sensor particularly adapted for use in cryogenic systems is described. It is in the form of a sawtooth-shaped unclad optical fiber and has two liquid contacting points and a scatter-producing bend at least in an input leg of the optical fiber, to increase sensitivity. A pulsed light emitting diode (LED) energizes the sensor input leg through a connecting optical fiber and a second connecting optical fiber conveys light pulses passing through the sensor to a photodiode. The photodiode develops an electrical signal which is a function of attenuation through the sensor, the latter being greatest when the sensor contacting points are in physical contact with the liquid. Processing of the pulsed photodiode output is effected in an amplifier synchronously enabled during the occurrence of the LED pulses. Write: **PAT-APPL-6-235 363**, 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, U.S.A.

Biomedical Flow Sensor/311

Capteur de débit biomédical/311

Filed April 16, 1981, by NASA. A biomedical flow sensor for intravenous systems is described. The device includes a packagable unit of a bottle, tubing and hypodermic needle which can be pre-sterilized and is disposable. The tubing has spaced tubular metal segments. The temperature of the metal segments and the fluid flow is sensed by thermistors and at a downstream location heat is input by a resistor to the metal segment by control electronics. The fluid flow and the electrical power required of the resistor to maintain a constant temperature differential between the tubular metal segments is a measurable function of fluid flow through the tubing. The differential temperature measurement is made in control electronics and also can be used to control a flow control valve or pump on the tubing to maintain a constant flow in the tubing and to shut off the tubing when air is present. Write: **PAT-APPL-6-254 688**, 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, U.S.A.

Electrical Rotary Joint Apparatus for Large Space Structures/311

Joint électrique rotatif pour grandes structures spatiales/311

Filed February 4, 1981, by NASA. A structural array and electrical rotary joint for transmitting an electrical power between large space structures having relative rotational movement therebetween is disclosed as including large support framework structures which rotate relative to one another about a common axis of rotation. The arrangement of cylindrical hub members and associated support structure in combination with the electrical conductor and bearings enable transmission of large amounts of electrical power from structures such as a solar array to a microwave antenna while maintaining a high degree of dimensional stability. Write: **PAT-APPL-6-231 543**, NASA, Marshall Space Flight Center, Mail Code: CC01, Hunts-

ville, Alabama 35812 and send a copy of your initial correspondence to Canadian Consulate General, 900 Coastal States Building, 260 Peachtree Street, Atlanta, Georgia 30303, U.S.A.

Electrical Power Generating System/311

Système de production d'énergie électrique/311

Filed March 16, 1981, by NASA. An alternating current power generation system adopted to inject power in an already powered power line is discussed. The power generating system solves to adjustably coup an induction motor, as a generator, to an ac power line wherein the motor and power line are connected through a triac. The triac is regulated to normally turn on at a relatively late point in each half cycle of its operation, whereby at less than operating speed, and thus when the induction motor functions as a motor rather than as a generator, power consumption from the line is substantially reduced. The principal application will be for windmill powered generation. Write: **PAT-APPL-6-243 683**, NASA, Marshall Space Flight Center, Mail Code: CC01, Huntsville, Alabama 35812 and send a copy of your initial correspondence to Canadian Consulate General, 900 Coastal States Building, 260 Peachtree Street, Atlanta, Georgia 30303, U.S.A.

Method and Apparatus for Supercooling and Solidifying Substances/311

Méthode et appareil de surfusion et de solidification de substances/311

Filed March 23, 1981, by NASA. The containerless melting, supercooling, and solidification of substances is facilitated by using an enclosure in which the specimen is positioned, maintained at ground potential, and suspended by a support wire made of the major constituent of the sample. A melting apparatus in the enclosure has a hot circular cathode for supplying bombarding electrons and a focusing grid for concentrating the electrons on the sample surface. An elongated drop tube aligned with the specimen is disposed under the enclosure, and vacuum sources are provided for evacuating the enclosure and drop tube. A detachable specimen catcher adjacent to the bottom of the drop tube recovers the specimen. The method involves heating the specimen, dropping the specimen melt through the tube where it cools by radiation, and recovering the resolidified specimen. The tube may be filled with an inert gas so that the specimen cools by convection as well as radiation. During free fall of the molten material, the sample is in a containerless, low gravity environment which enhances supercooling. Nucleation in the falling specimen is sensed by silicon photovoltaic detectors, and the amount of supercooling is determined from nucleation time and cooling rate. Write: **PAT-APPL-6-246 773**, NASA, Marshall Space Flight Center, Mail Code: CC01, Huntsville, Alabama 35812 and send a copy of your initial correspondence to Canadian Consulate General, 900 Coastal States Building, 260 Peachtree Street, Atlanta, Georgia 30303, U.S.A.

Low-Frequency Radio Navigation System/311

Système de radionavigation à basse fréquence/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed March 6, 1981, by NASA. A method of continuous wave navigation using four transmitters operating at sufficiently low frequencies to assure essentially pure groundwave operation is described. The transmitters are keyed to transmit constant bursts (1/4 sec) in a time-multiplexed pattern with phase modulation of at least one transmitter for identification of the transmitters and with the ability to identify the absolute phase of the modulated transmitter and the ability to modulate low rate data for transmission. The transmitters are optimally positioned to provide groundwave coverage over a service region of about 50 by 50 km for the frequencies selected in the range of 200 to 500 kHz, but their locations are not critical because of the beneficial effect of overdetermination of position of a receiver made possible by the fourth transmitter. Four frequencies are used, at least two of which are selected to provide optimal resolution. All transmitters are synchronized to an average phase as received by a monitor receiver. Write: **PAT-APPL-6-241 154**, Monte F. Mott, 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, U.S.A.

Focal Plane Array Optical Proximity Sensor/311

Capteur de proximité à réseau sur le plan focal d'un système optique/311

Filed March 11, 1981, by NASA. An optical proximity sensor with an illuminator assembly which includes an illuminator lens and a plurality of light emitting diodes located at first predetermined positions along the focal plane of the illuminator lens is presented. A detector assembly including a detector lens and a plurality of photodiodes located at second predetermined positions along the focal plane of the detector lens is also provided. The two lenses are spaced apart in accordance with the configuration of the light emitting diodes and the photodiodes to define a predetermined detection volume. Each light emitting diode has a corresponding photodiode, and their relative positions on their respective focal planes determine the detection volume defined by their overlapping fields of view. Write: **PAT-APPL-6-242 797**, Monte F. Mott, 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, U.S.A.

System for Monitoring Physical Characteristics of Fluids/311

Système de contrôle des caractéristiques physiques des fluides/311

Filed March 23, 1981, by NASA. An apparatus and method are described for measuring physical characteristics of a fluid, by placing a drop of the fluid in a bath of a second fluid and passing acoustic waves through the bath. The applied frequency of the acoustic waves is varied, to determine the precise value of a frequency at which the drop undergoes resonant oscillations. The resonant frequency indicates the interfacial tension of the drop in the bath, and the interfacial tension can indicate physical properties of the fluid in the drop. Write: **PAT-APPL-6-246 774**, Monte F. Mott, 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, U.S.A.

High Velocity Exhaust Diffuser and Water Baffle/311

Diffuseur d'échappement à haute vitesse et chicane contre l'eau/311

Filed March 18, 1980, by the Department of the Navy. The patent describes a diffuser and baffle device which prevents sea water intrusion or ingestion into a marine gas turbine engine exhaust system without significantly increasing exhaust back pressure. Inboard and outboard rows of vertical turning vanes are separated by a gap and effect successive bends of the exhaust flow in opposite directions while affording an increase in cross-sectional area. The outboard vanes are slotted at their inboard edge portions, and the inboard vanes are provided with hook-shaped projections defining grooves, whereby water driven into the device is arrested and drained overboard. Write: **PAT-APPL-6-131 341**, NAVY.

Coil Device for Underwater Magnetic Testing/311

Dispositif à bobine pour études magnétiques sous-marines/311

Filed November 13, 1980, by the Department of the Navy. It is a principle object of this invention to provide a new and useful apparatus or device for carrying out magnetic inspection or testing of steel or other ferromagnetic structural members in an underwater environment. Another object is the provision of an electrically energizable magnetic flux generating coil device that can be easily and safely handled underwater by a diver and which will pose no hazards of electrical nature to the diver when the device is energized. The invention aims to provide a magnetic testing device of the foregoing character that can readily be applied to elongated structural members without access to an end thereof, and which can be used to generate an electrical flux in a joint or weldment of intersecting members. Still another object is the provision of a magnetic flux testing coil device that is relatively inexpensive, reliable in operation, and requires no underwater electrical make and break connections or bare electrical elements. Write: **PAT-APPL-6-206 424**, NAVY.

Tunnel Wedge/311

Cône d'hélice/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed November 20, 1980, by the Department of the Navy. A full or partial tunnel wedge is positioned in the propeller shaft tunnel aft of the propeller on a waterborne craft. The size and angle of the wedge is determined by the characteristics of the particular craft. The wedge converges water flow and increases water pressure aft of the propeller. The higher water pressure increases the propeller thrust and reduces the hull drag of the propeller shaft tunnel thus reducing the shaft horsepower required to maintain a given speed. Write: **PAT-APPL-6-208 754**, NAVY.

Flush Mounted Low Impedance Grounding Cone/311

Cône de mise à la terre à faible impédance et encastré/311

Filed December 9, 1980, by the Department of the Navy. A device for grounding a coaxial cable to a ship's hull or bulkhead having an opening for the cable, is configured to include a split metallic cone with serrated apex portions fastenable around a bared shield of the coaxial cable, and flanged base portions securable to the ship's hull and overlying the opening, such that the split cone forms substantially 360 deg. of coupling between the bared shield and the ship's hull. This configuration increases the area and effectiveness of electrical contact between the bared shield and the ship's hull while decreasing the effective inductance and overall impedance, thereby reducing the amplitude of high frequency transients caused by an externally induced electromagnetic pulse (EMP) or any electromagnetic interference source having a similar frequency range. Write: **PAT-APPL-6-214 545**, NAVY.

Magnetostrictive Optical Fiber Cable and Magnetic Field Detector, and Method thereof/311

Méthode de détection des champs magnétiques au moyen d'un câble magnétostrictif à âme en fibre optique/311

Filed January 12, 1981, by the Department of the Navy. An optical fiber cable and magnetic field detector magnetostrictively reactive to the presence of an external magnetic field is presented. The optical fiber cable comprises a elongated optically

transparent core sheathed by a magnetostrictively responsive jacket disposed about the periphery of the core. The jacket responds to magnetic fields present and strains the core effecting the light transmission of the core. The effect upon the light transmission by the jacket is detected by interferometry for determining the presence of the magnetic field. Write: **PAT-APPL-6-223 635**, NAVY.

Ball Bearing Assembly Device/311

Dispositif de montage de roulements à billes/311

Filed January 13, 1981, by the Department of the Navy. A ball bearing assembly device for permitting dry assembly of bearings without additional equipment. The assembly device is provided with an inner body surrounded by an outer body so as to create a circumferential gap there-between. The gap is provided with a vacuum connection which allows positioning of ball bearings on a ball bearing shaft or inner bearing ring when the shaft or ring is mounted on the inner body. The bearing shaft is placed into the inner body so as to provide a mounting means to aid in insertion of the bearing shaft or ring into the outer bearing ring. The bearing shaft may be mounted on a reciprocating shaft for insertion into the outer bearing ring. Write: **PAT-APPL-6-224 775**, NAVY.

Carbon Dioxide Absorbent Canister with Breathing Gas Temperature and Flow Control/311

Bouteille absorbant le dioxyde de carbone, avec commande du débit et de la température du gaz respirable/311

Filed January 22, 1981, by the Department of the Navy. It is a principal object of this invention to provide an improved carbon dioxide scrubber or absorbent canister suitable for prolonged use in closed or semi-closed underwater breathing apparatus systems having a relatively low gas flow rate through the canister. Another object of the invention is to provide such an improved carbon dioxide absorbent canister that occupies the same volume as the canister it replaces while yielding much more complete usage of the absorbent charge capability, and hence a materially longer effective life for a given charge. A canister of the foregoing character is to be provided which is rugged of construction, reliable in operation, and is easier to empty and recharge with absorbent material that those canisters having complex baffles and/or reentrant walls that make it difficult to avoid voids in the bed. Write: **PAT-APPL-6-227 285**, NAVY.

Annealing of Ion-Emplanted GaAs and InP Semiconductors/311

Méthode de recuit des semiconducteurs GaAs InP à implantation ionique/311

Filed January 26, 1981, by the Department of the Navy. A method of annealing both N and P-type ion-implanted GaAs and InP semiconductors by using a close-contact capping technique. A flat polished ion-implanted surface on a gallium arsenide (GaAs) or indium phosphide(InP) semiconductor is placed in face-to-face contact with a non-reactive flat surface such as Si3N4, SiO2; AIN, or identical semiconductor material, and annealed at selected elevated temperatures and time dependent upon ion concentration. The annealed semiconductor material, usually in the form of a wafer, is allowed to cool to room temperature for further processing. Write: **PAT-APPL-6-228 425**, NAVY.

An Optical Lithographic Technique for Fabricating Submicron-Sized Josephson Microbridges/311

Technique lithographique optique de fabrication de microponts Josephson de dimensions inférieures au micron/311

Filed February 2, 1981, by the Department of the Navy. Planar superconducting-normal-superconducting (SNS) Josephson microbridges and superconducting quantum interference devices (SQUIDs) with bridge widths of about 0.2 microns and lengths of about 0.1 micron or less are fabricated with the aid of a technique referred to as 'shadow evaporation'. The procedure permits the submicron dimensions to be set by edge film thickness and slant evaporation angle, both of which can be accurately measured. Microbridges have been constructed with vanadium banks or electrodes and gold-titanium bridges, although other materials can be used including superconducting metals for the bridge. It is expected that a refined version of this technique would be suitable for repeated batch fabrication of single and multiple Josephson microbridges. Write: **PAT-APPL-6-230 246**, NAVY.

Photoelectrochromic Display Device/311

Dispositif d'affichage photoélectrochromique/311

Filed February 2, 1981, by the Department of the Navy. A photoelectrochromic display device having a semiconductor electrode, and a counterelectrode made of a selected metallic material is presented. the electrode and counterelectrode are immersed in an aqueous solution containing heptyl viologen. The device is usable as a display device, as a storage battery, and as an alternating current photoelectric generator. As a display device, the cell requires only two leads rather than multiple leads and complicated electrical addressing and decoding required for most multi-character displays. Write: **PAT-APPL-6-230 850**, NAVY.

Fiber Optical Magnetic Field Sensor and Method of Assembly/311

Capteur de champ magnétique à fibre optique et méthode d'assemblage/311

Filed March 6, 1981, by the Department of the Navy. A Sensing element of magnetostrictive material is described which is associated with an optical fiber of an interferometer arm defining apparatus for detecting magnetic fields. The magnetostrictive material is adhered in close co-extensive adjacency with the optical fiber and in the presence of a magnetic field undergoes responsive longitudinal dimension changes which strains the optical fiber and induces a strain related phase shift in an optically propagating beam in the fiber detectable by interferometry. Write: **PAT-APPL-6-241 290**, NAVY.

Feed-Forward Amplifier/311

Amplificateur à correction aval/311

Filed March 16, 1981, by the Department of the Navy. A feed-forward amplifier is described in which samples of the input and output signals of a main amplifier are adjusted in amplitude and algebraically combined to produce a sample of the error introduced into the output signal by distortion and noise in the main amplifier. This error sample is amplified to produce a correction signal by a subsidiary amplifier which itself introduces noise and distortion. The correction signal is algebraically combined with the output signal of the main amplifier and a fraction of the resultant output signal is fed back to the input of the subsidiary amplifier to render the output signal substantially free of error caused by either of the main and the subsidiary amplifier. Write: **PAT-APPL-6-244 175**, NAVY.

Power Meter for High Energy Lasers/311

Wattmètre pour faisceaux laser à haute énergie/311

Filed March 23, 1981, by the Department of the Navy. A power meter is described non-destructively measuring the power of a high energy laser beam. The power meter includes a cell disposed in the flow path of a gas containing a laser radiation-absorbing species. The absorption coefficient of the absorbing species is small enough to allow the beam to pass through the cell essentially unaltered. The concentration of the absorbing species is modulated to modulate its absorption of the laser beam power and produce acoustic waves in the gas which can be detected and measured to give an absolute measurement of the power in the high energy laser beam. Write: **PAT-APPL-6-246 350**, NAVY.

Tokamak Plasma Heating with Intense, Pulsed Ion Beams/311

Chauffage du plasma des Tokamaks par des faisceaux d'ions pulsés/311

Filed March 25, 1981, by the Department of the Navy. An intense, space-charge-neutralized, pulsed ion beam is used to heat a magnetically-confined plasma, such as a tokamak plasma, by injecting the ion beam into the plasma along a trajectory that is generally tangential to the confining magnetic field. The ion beam inductively generates a plasma return current so that no net current is produced. As the ion beam drifts in the plasma, the confining magnetic field is transformed into one which can trap the ion beam at the center of the plasma. Once the ion beam is trapped, the plasma return current is cancelled by transformer action to produce a net current which is carried by the ion beam alone. The beam transfers its energy to the plasma by classical collisions with the electrons and ions of the plasma. Heating of the plasma can be sufficient to produce a breakeven condition or ignition. Write: **PAT-APPL-6-247 420**, NAVY.

Spring Safety Retainer/311

Retenue de sécurité à ressort/311

Filed March 30, 1981, by the Department of the Navy. A spring is tightly wrapped about a circumference of a shaft and a spring safety retainer engages a periphery of the torsional spring about the shaft thereby securing the spring to the shaft. One end of the spring safety retainer engages the inner involutional surface of the torsion spring. The shaft can be rotated by various means such as a solenoid, vibration and/or shock. One object of this invention is a spring safety retainer able to securely hold a spring to a shaft under rigorous conditions. Another object is a spring safety retainer less costly to manufacture than previous retainers. Write: **PAT-APPL-6-249 574**, NAVY.

Conversion Between Magnetic Energy and Mechanical Energy/311

Conversion énergie mécanique/énergie magnétique/311

Filed April 2, 1981, by the Department of the Navy. A method of converting magnetic energy to mechanical energy comprising subjecting a material of the formula R sub x T sub 1-x where in R is a rare earth or mixtures thereof, T is Fe, Ni, Co, Mn, or mixtures thereof, and $0 < x < 1$, to a change in magnetic field and of converting mechanical energy to magnetic energy comprising subjecting a material of the formula R sub x T sub 1-x to a change in pressure. Write: **PAT-APPL-6-250 450**, NAVY.

Radiosonde/311

Radiosonde/311

Filed April 7, 1981, by the Department of the Navy. The altitude measurement of a vehicle according to the present invention requires an accurate location of the vehicle geographically. This is found from standard navigational equipment used for ships, such as the Omega system or the Loran system. Once the geographic location of the vehicle is identified, a timing signal is transmitted to it from a reference station. The geographical location and altitude of this station is known. The timing signal travels to the vehicle where it is detected and a return signal is transmitted to the reference station. Timing the difference between transmission and reception of the return signal provides information to calculate the distance between the two since the total time and the velocity of propagation are both known. The remote vehicle also transmits its geographic location to the reference station. Application of the Pythagorean theorem permits direct calculation of the difference in altitude of the vehicle from that of the reference station. It is an object of the present invention to define a method of measuring altitude of airborne vehicles independent of atmospheric parameters. Write: **PAT-APPL-6-251 806**, NAVY.

A Non-Hazardous Ship Mooring System/311

Dispositif d'amarrage de sécurité de navire/311

Filed April 8, 1981, by the Department of the Navy. The present invention relates to ship mooring systems, and more particularly to a non-hazardous ship mooring system using a high strength modulus fiber — such as KEVLAR — as a mooring line. The fiber is woven in the form of a rectilinear strap having a width and thickness which assures that lateral forces will not exceed the lateral strength modulus of the fiber while providing a line having exceptional longitudinal strength. The winch for the line has a slip brake set for 50% of the maximum load capability of the line to allow the line to slip rather than strain to the breaking point. Write: **PAT-APPL-6-252 107**, NAVY.

Efficient Low-Sidelobe Pulse Compression/311

Système efficace de compression d'impulsions à faible teneur en lobes secondaires/311

Price per copy from NTIS: PC U.S. $6.50/MF U.S. $3.50, filed April 15, 1981, by the Department of the Navy. This invention relates to a pulse compression system for use with step approximation to linear FM and Frank coded signals to eliminate sampling errors and range time grating lobes while providing large pulse compression ratios comprising: a receiving circuit for receiving echo signals, a converting circuit for converting echo signals from the receiver to I and Q baseband signals without clock sampling, a sliding window Discrete Fourier Transform or Fast Fourier Transform (FFT) circuit including a taped delay line and a plurality of resistor-type phase weighting networks and adders for generating a plurality of output signals representing the different frequency steps in the signals, a delay circuit for differentially delaying the output frequency steps from the sliding window DFT circuit so that the output steps occur simultaneously, and a summer for adding the differentially delayed outputs to yield a short pulse with a peak amplitude when a coded echo pulse is correctly indexed within the delay line of the DFT circuit. Write: **PAT-APPL-6-254 311**, NAVY.

Adaptive Feed-Forward System/311

Système à correction aval polyvalent/311

Filed April 14, 1981, by the Department of the Navy. A feed-forward system is given for reducing the distortion products from a device such as an amplifier, wherein a sample of the device input signal is subtractively combined with a sample of the device output signal to produce a sample of the distortion products. The distortion sample is adjusted in amplitude and phase and subtractively combined with the device output to produce a distortion-reduced system output. A synchronous detector correlates a sample of the system output, in which the proportion of distortion has been increased, with another sample of the distortion products to produce control signals for a modulator which adaptively adjusts the amplitude and phase of the distortion sample subtractively combined with the device output. Write: **PAT-APPL-6-254 353**, NAVY.

A Self-Deploying Buoy System/311

Bouée à autodéploiement/311

Filed April 16, 1981, by the Department of the Navy. This invention relates to a self-deploying buoy system which will moor itself in various depths of water. The system has a fixed mid-water buoy and canister. In one end of the canister is an RF telemetry buoy and upper cable pack. In the other end of the canister is a lower cable pack, sensor and anchor assembly. When deployed all the cable in both the upper and lower cable packs is deployed under the force of gravity until no cable is left in either pack. Write: **PAT-APPL-6-254 809**, NAVY.

An N-Way Summing Network Characterization System/311

Système de caractérisation à réseau de sommation à N voies/311

Filed April 20, 1981, by the Department of the Navy. It is the object of the invention to provide a method which permits quasi real-time, computer aided tuning and optimization for maximum efficiency of microwave power combining structures used

in solid state radar transmitter applications. It is further object of the invention to provide a means for predicting the maximum achievable performance of a wide range of microwave combining circuit topographies. Another object of the invention is to provide a method that permits the determination of combing circuit impedance parameters which are necessary in designing an efficient solid state transmitter. To these and other ends, the invention contemplates a semi-automatic N-way summing network alignment system comprising a semi-automatic network analyzer, serving as an analyzer and controller, having a means for inputting a test signal into a summing network, a network analyzer controlled relay which in turn provides a means for remotely controlling the position of the individual switches in a coaxial switching network, connected to said summing network, and a means for connecting the unused input ports of said summing network to ground. Write: **PAT-APPL-6-255 621**, NAVY.

Electrical Connection/311

Connexion électrique/311

Filed February 11, 1980, by the Department of the Navy. The present invention relates to electrical connections and formation thereof, and more particularly to electrical connections and formation thereof usable on heat-sensitive substrates or members. The interconnection includes adhesive material such as epoxy disposed between and attaching an electrically conductive member to another member, and a single contiguous electrically conductive coating applied to adjacent portions of these two members to electrically connect them. The other member can be a heat-sensitive member such as a PVF2 film. The other member need not necessarily be a conductive member; for example, PVF2 film can be used in a transducer. The other member can first be partially masked to expose only those portions of the member which are to receive the conductive coating. To form the connection, one or more electrically conductive members, such as metallic wires or electrodes, are fixed to the second member with adhesive such as epoxy. Adjacent areas of the conductive and of the other member are then coated with a contiguous conductive coating such as by sputtering gold thereon. Especially for a PVF2 or other polymer piezoelectric transducer, the other member should be masked before coating, and then unmasked after applying the coating, where multiple connections are desired, to prevent arcing, etc. Write: **PAT-APPL-6-256 330**, NAVY.

Composite Video Signal Separator/311

Séparateur de signaux vidéo composites/311

Filed April 22, 1981, by the Department of the Navy. This invention overcomes some of the difficulties of the prior art in that it comprises a relatively simple composite video signal separator adapted for separating an incoming composite video signal into a horizontal sync signal, a vertical sync signal, and video information signal. Included in the subject invention are an input terminal adapted to receive a composite video signal which has therein horizontal and vertical sync components and a video component, first separator means adapted to pass the video component of the composite video signal, and second separator means adapted to pass the horizontal and vertical sync components of the composite video signal. A first phase lock loop circuit locks in upon the vertical sync component of the composite video signal so as to provide at the output thereof a vertical sync signal, while a second phase lock loop circuit locks in upon the horizontal sync component of the composite video signal so as to provide at the output thereof a horizontal sync signal. The vertical sync signal is then supplied to a first one-shot multivibrator which expands the pulse width of each sync pulse of the vertical sync signal. Likewise, the horizontal sync signal is supplied to a second one-shot multivibrator which expands the pulse width of each sync pulse of the horizontal sync signal. The aforementioned horizontal and vertical sync signals, and the video signal may then be supplied to any television system or the like for utilization thereby. Write: **PAT-APPL-6-256 355**, NAVY.

Low Power Driver for Flux Gate Magnetometer/311

Circuit d'excitation à faible puissance pour magnétomètre "flux gate"/311

Filed April 24, 1981, by the Department of the Navy. A driver circuit for a fluxgate magnetometer has a repetition rate controllable independent of the magnetometer core winding inductances, and a current-ON interval terminated only by core saturation. In this manner, power consumption is greatly reduced as compared to prior magnetometers without sacrificing low-noise operation. Previous drivers operated in a free-running flyback mode at high pulse repetition rates. The present driver reduced the oscillator repetition rate, and power consumption, by the use of a control loop from the flyback oscillator which signals the end of a current pulse as the magnetometer core rebounds from the saturated state. Write: **PAT-APPL-6-256 868**, NAVY.

Waveguide Coupler Using Three or More Wave Modes/311

Coupleur de guide d'ondes à trois modes de transmission ou plus/311

Filed April 27, 1981, by the Department of the Navy. A coupler is given employing two similar sections of waveguide which extend colinearly in longitudinal succession. Adjacent ends of the guide sections are spaced apart to form a gap in the boundary of the sections. A third section of waveguide is disposed external to and coaxial with at least a part of each of the the two waveguide sections to provide a boundary surrounding the gap. Electromagnetic energy propagating down one of the two similar sections of waveguide in a first mode and entering the gap is converted partly to a plurality of other modes. The converted energy is reconverted to the first mode upon reaching the other of the two similar sections of waveguide. The

electric field pattern exciting the section of waveguide at the end of the gap and propagating down it is exclusively in the first mode. The cutoff-determining dimensions of the third section of waveguide and the gap separation are determined from the condition that the phase relationship between the modes at the end of the gap be the same, to within an integral multiple of 2 pi, as what they were at the beginning of the gap, to insure complete transfer of power between the two similar sections of waveguide. Write: **PAT-APPL-6-258 084**, NAVY.

Recessed Interdigited Integrated Capacitor and Method Therefor/311

Condensateur interdigital intégré à encastrement et méthode de production/311

Filed April 24, 1981, by the Department of the Navy. The present invention includes a microelectronic capacitor having interdigited electrodes embedded within a substrate. A plurality of recesses are formed in a high resistivity semiconductor substrate material by particle beam machining, etching, or the like and the recesses are substantially filled with a conductive material, e.g. aluminum, forming a plurality of individual electrodes. Alternate ones of the electrodes are interconnected forming the interdigited plates of the capacitor with the dielectric comprising the insulating substrate material. The capacitor thus formed provides a high value of capacity with reduced chip area and both of the capacitor plates can be connected to other electronic components as desired including other electronic components disposed or embedded on the same substrate. Write: **PAT-APPL-6-258 345**, NAVY.

Radar Clutter Reduction by Use of Frequency-Diverse, Wideband Pulse-Compression Waveforms/311

Réduction du clutter radar par l'utilisation de formes d'onde à compression d'impulsions à large bande et à diversité de fréquence/311

Filed April 24, 1981, by the Department of the Navy. A method is given for generating and transmitting wideband, expanded radar pulses which spatially decorrelate clutter and are frequency-hopped from pulse to pulse by the proper frequency difference for clutter decorrelation by frequency-diversity. The returned signals are compressed, delayed by one pulse interval, and correlated, each with its succeeding echo pulse, to decorrelate the clutter returns but not the target echoes. The frequencies of the transmitted pulses are locked to the local oscillator frequency, which is very stable. A double-sideband technique is used to generate the different pulse frequencies. Write: **PAT-APPL-6-258 346**, NAVY.

Road Inclinometer for Moving Vehicles/311

Inclinomètre routier pour véhicules en mouvement/311

Filed January 19, 1981, by the Department of Transportation. The invention is a surface inclination-measuring system including a vehicle having a longitudinal axis and adapted for movement on a surface having support means that engage the surface and define a reference plane. Mounted on the vehicle is a gravity-responsive accelerometer having a single sensitive axis oriented substantially parallel to both the vehicle's longitudinal axis and the reference plane defined by the support means. The accelerometer provides a first signal proportional both to gravitational acceleration and changes in the vehicle's longitudinal speed. Also included in the system is a velocity-measuring device that produces a velocity signal proportional to the longitudinal velocity of the vehicle and a differentiator for receiving the velocity signal and producing a second signal proportional to the rate of change thereof. A combining circuit produces an output signal dependent upon the inclination of the surface over which the vehicle is moving. Write: **PAT-APPL-6-226 016**, NTIS.

Bibliography

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Developing Corporate Policies for Innovation: A Program of Action/311

Long Range Planning, August 1981, pp. 34-42 based on a speech by William C. Norris, Chairman of the Board of Data Control Corporation. This is a long range view of innovation, focusing on the "how" rather than the philosophical methods of stimulating innovation, improving productivity, creating jobs and increasing the ability to compete in overseas trade while furthering industry's own interests in profitable, stable and growing markets. The author indicates why there must evolve a consortium of participation and cooperation between the country's industries, all level of government and communities in such areas as education, health care, urban revitalization, rural development, energy, and the role top management must play in policy making to stimulate innovation and business opportunities in unknown fields, in acquisitions and mergers and in maintaining employment and job values. He outlines why each participant must not go his own way if we are to overcome the underlying causes of our dangerous decline in the rate of productivity growth which he believes is caused by lagging innovation and risk/capital investment, the increased cost of energy, under utilized resources (both human and physical, with the largest under utilized physical resource being technology), excessive government regulation and the decreasing contribution of small business. A social impact analysis for acquisition is appended. Reprints available from CISTI.

The Japanese Fix/311

Canadian Business, November 1981, pp. 36-43, p. 45, p. 48 and p. 180, by Robert Collison. The aspect of North American business culture most puzzling to Japanese managers is the separation of work life from private life. In Japan it is accepted that time spent at work should be as happy as at home. Author discusses other aspects that are generally attributed to Japan's advancement as a superbly functioning industrial society. He emphasizes that economic policies, and the totally different management attitudes that could be adopted in Canada in employee relations such as worker security, consensus decision making and quality of working life are what are confronting North American business, and not technology, or investment, or regulation or inflation, and he cites the Japanese example of harmonious worker-management relationships in contrast with the continuous increase in adversarial relationships between management and employees, as a major issue that, if avoided, could effect a positive change in our economy. Copies of the November issue are available for $2.00 from: Kim Mikkelsen, C.B. Media Limited, 555 Dorchester Blvd West, Montreal, Quebec H2Z 1B1. **NOTE:** Subscribers might be interested in obtaining both of these articles as they can be considered as being complementary.

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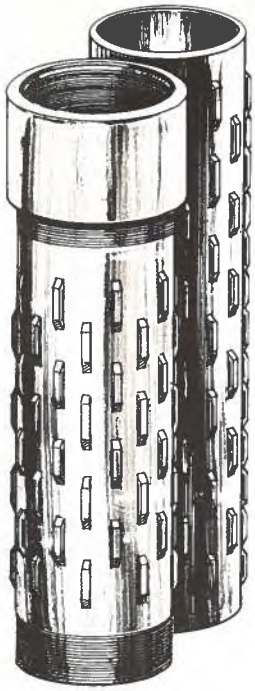

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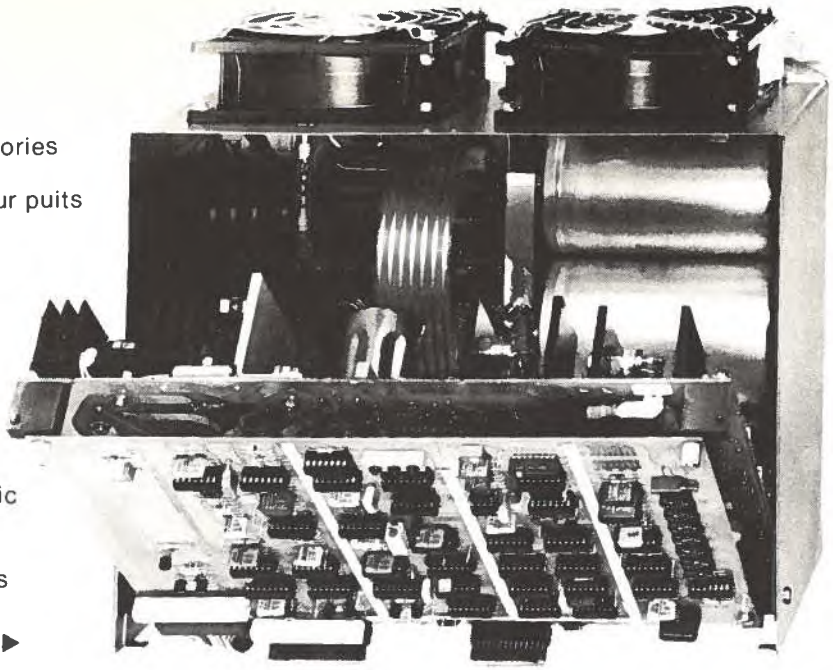

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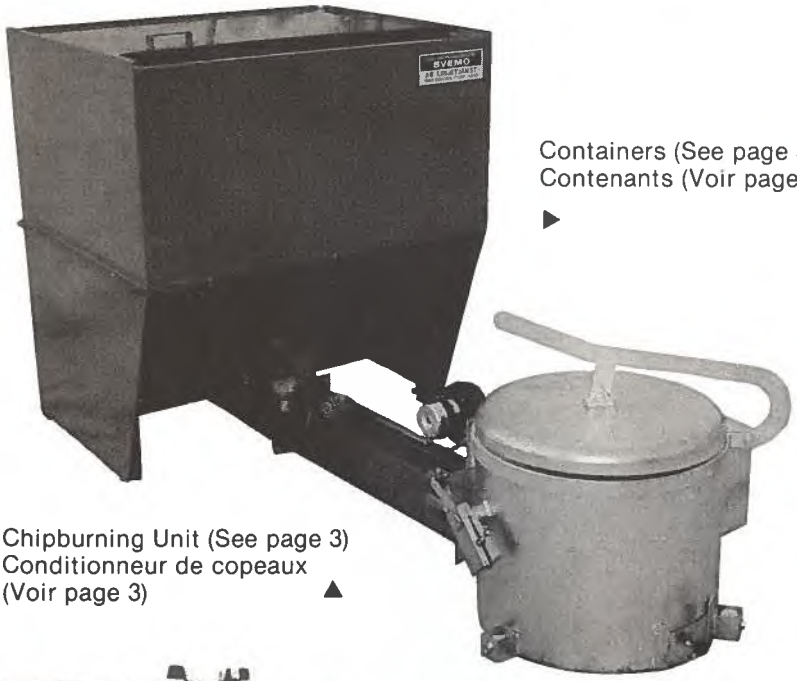

Containers (See page 3)
Contenants (Voir page 3)
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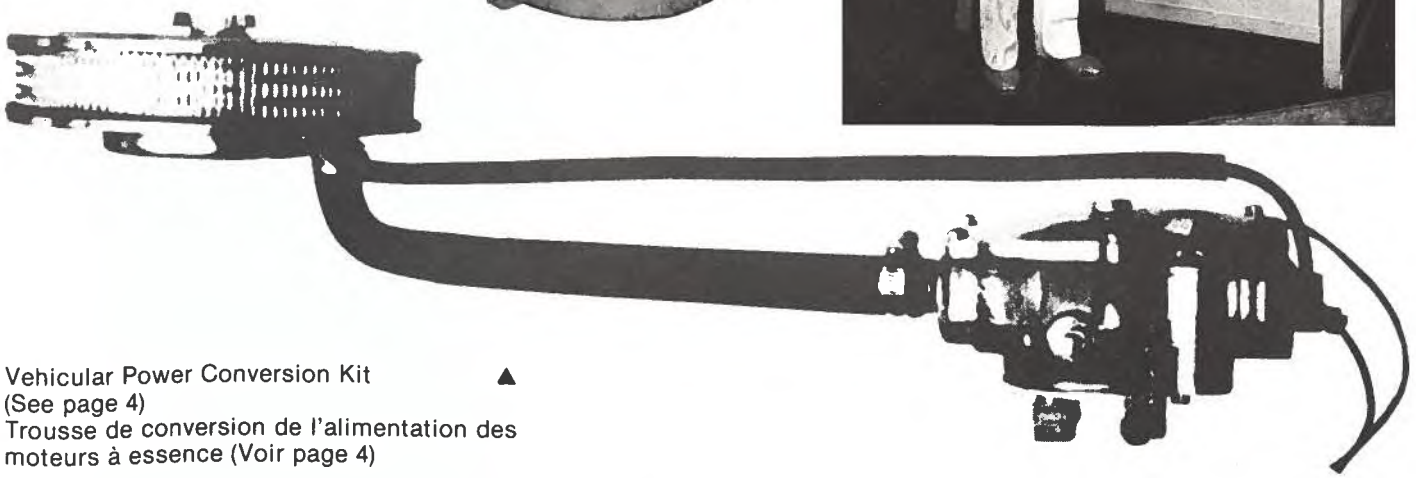

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