

new products bulletin

Bulletin 298, November 1980

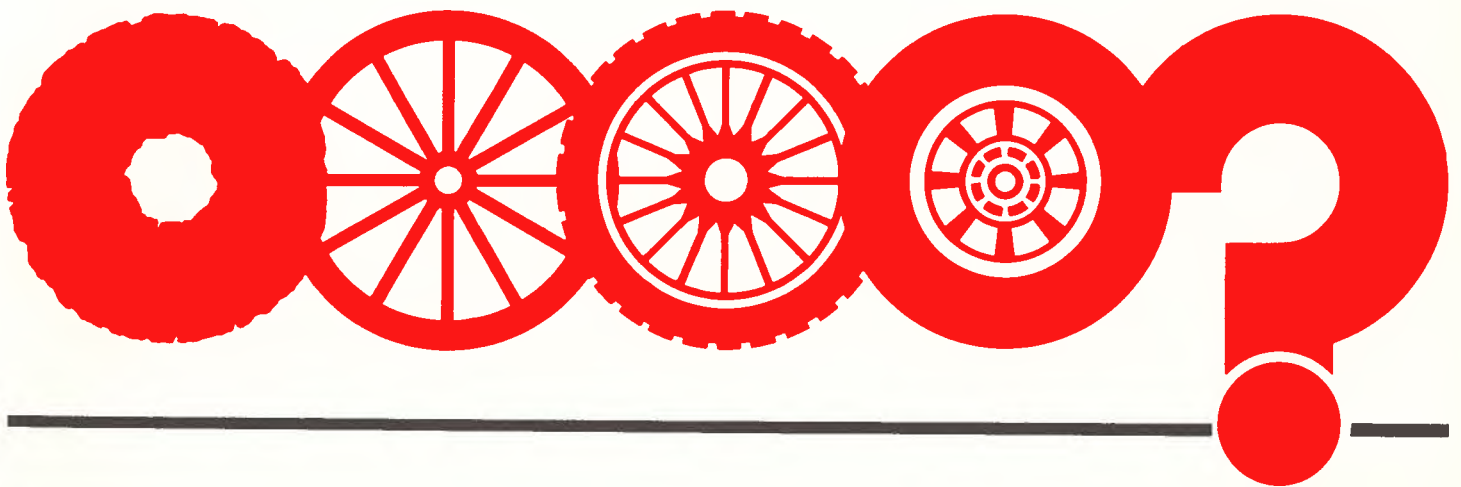
bulletin de produits nouveaux

Bulletin 298, Novembre 1980

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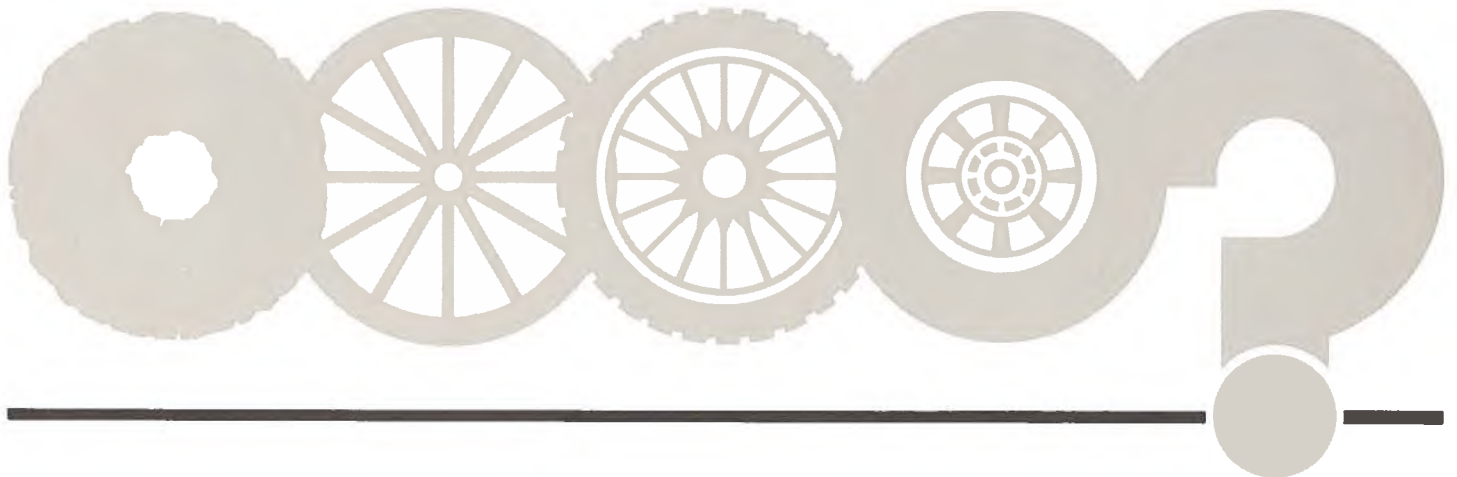
bulletin de produits nouveaux

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

Heat Pump/298

Danish company offers Canadian manufacturing and North American marketing rights to a Canadian company to manufacture fully tested water to water heat pumps for domestic use and small air to water heat pumps for producing domestic hot water using exhaust or ambient air. Licenses have been granted in Europe and Japan. The heat pump is compact, is inexpensive to manufacture, has a low noise level and a higher COP than other heat pumps constructed to date. It has efficient heat exchangers (evaporators, condensers) on which patents are pending in Europe, Japan, U.S.A. and Canada. The pump can take its heat from air, solar collectors, the ground, ground water, lakes or rivers and can both heat and cool thus making it possible to heat during the winter and to cool during the summer. Other advantages are its efficiency and energy economy. Write: International Solar Power Co. Ltd., Vestagervej 3, DK-2100 Copenhagen Ø, Denmark and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Kr. Bernikowsgade 1, 1105 Copenhagen K, Denmark.

Space Frame Structures/298

American company offers technology and a manufacturing license for its line of patented spaceframe structures and components for roofing systems and enclosures. The establishment of a joint venture marketing company is also proposed. The products provide a wide range of large span designs and consist of an aluminum spaceframe with an insulated laminated panel system and honeycomb thermoplastic glazing panels which provide R27 to R42 energy rating. A vinyl polyester membrane is also available. The structures permit the fast erection of insulated energy efficient enclosures. This opportunity would be of particular interest to a company experienced in aluminum fabrication and marketing in the architectural/engineering specialized field. (See illustration page 26.) Write: Space Structures International Corp., 155 Dupont Street, Plainview, New York, 11803 and send a copy of your initial correspondence to Canadian Consulate General, 1251 Avenue of the Americas, New York City, N.Y. 10020.

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

Pompe à chaleur/298

Une compagnie danoise offre les droits de fabrication au Canada et de commercialisation en Amérique du Nord à une compagnie canadienne sur des pompes à chaleur eau-eau entièrement vérifiées pour utilisation domestique et sur de petites pompes à chaleur air-eau pour la production d'eau chaude sanitaire au moyen d'air rejeté ou ambiant. Des licences ont déjà été accordées en Europe et au Japon. La pompe à chaleur est compacte, est peu coûteuse à fabriquer, a un niveau de bruit peu élevé et un coefficient de performance plus élevé que les pompes à chaleur construites jusqu'à présent. Elle comporte des échangeurs de chaleur efficaces (évaporateurs, condenseurs) pour lesquels des brevets sont en instance en Europe, au Japon, aux États-Unis et au Canada. La pompe tire sa chaleur de l'air, de collecteurs solaires, du sol, de l'eau souterraine, de lacs ou de cours d'eau et peut soit chauffer soit refroidir, ce qui rend possible de chauffer pendant l'hiver et de refroidir pendant l'été. Parmi les avantages de cette pompe, citons son rendement et les économies d'énergie qu'elle permet. Écrire à: International Solar Power Co. Ltd., Vestagervej 3, DK-2100 Copenhagen Ø, Danemark et envoyer une copie de votre correspondance initiale à la Division commerciale de l'Ambassade du Canada, Kr. Bernikowsgade 1, 1105 Copenhagen K, Danemark.

Structures spatiales/298

Une compagnie américaine offre la technologie et la licence de fabrication de sa série de structures spatiales et d'éléments brevetés pour toitures et constructions. Elle propose également de créer une entreprise de commercialisation en participation. Ces produits offrent une gamme variée de structures de grande portée qui consistent essentiellement en une ossature spatiale en aluminium recouverte de panneaux stratifiés isolés et d'un vitrage thermoplastique à nids d'abeilles assurant une résistance thermique de R27 à R42. Une membrane en polyester vinylique est également disponible. Ces éléments permettent d'ériger rapidement des constructions ayant un bon rendement énergétique. Cette offre serait particulièrement intéressante pour une compagnie qui a déjà de l'expérience dans la fabrication et la commercialisation de l'aluminium utilisé dans les domaines spécialisés de l'architecture et du génie civil. (Voir l'illustration page 26.) S'adresser à la Space Structures International Corp., 155 Dupont Street, Plainview, New York, 11803 et faire parvenir une copie de votre correspondance initiale au Consulat Général du Canada, 1251 Avenue of the Americas, New York City, N.Y. 10020.

Wall and Panelling System/298

A German company offers a Canadian company a manufacturing and marketing license for a patented wall and ceiling panelling system which uses specially profiled tongued and grooved boards. Boards are steel brushed to remove springwood, and stained. The use of a set of punched metal parts facilitates the construction of pillars, beams, wainscotting, door claddings and cupboards. The system also utilizes several interlocking interior and exterior corner mouldings which ensure rigidity and contribute to ease of assembly. (See illustration page 26.) Write: Mr. Wolfgang Rosner, Strukturholz GmbH & Co., Am Steinbruch 7, 8121 Polling, West Germany and send a copy of your initial correspondence to Canadian Consulate General, Immermannstrasse 3, 4 Duesseldorf, West Germany.

Solar Thermal Electric Power System/298

Japan Industrial Technology Association is offering licensing opportunities to a Canadian company to manufacture a multi-stage solar thermal electric power generation system. The system consists of three types of collectors, heat transfer loop, thermal storage system and turbine generator. The collectors are a reverse flat plate, a line focussing and a point focussing collector, arranged in series. Total system efficiency is very high. Write: Japan Industrial Technology Association, 20 Mori Building, 8F, 2-7-4 Nishi Shinbashi, Minato-ku, Tokyo 105, Japan and send a copy of your initial correspondence to Commercial Division, Embassy of Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japan.

Oil Spill Recovery System/298

Canadian inventor offers non-exclusive rights under his Canadian and American patents for a skimming and sluicing weir for mounting on a barge containment vessel. The construction of the weir with a slop reservoir; and of the barge with a separating tank, storage tank and pumping system, permit a clean pick-up and containment of the oil spill. The weir is connected to the barge in a substantially rigid fore and aft direction but has vertical movement relative to the barge, and is controlled by a deck winch. The unit is self-independent in operation, has a high intake capacity and can be operated by a two man crew. The portable pick up containment vessel may be used as a work boat or for transport until required for cleaning up oil spills thus adding an attractive economical feature. The barge has good oil storage capacity which can be increased by using a trailer barge for large spills or spills in critical areas. The weir can be maintained in its correct position regardless of weather conditions or fluid intake. The system enables the weir to be detached and replaced with one of a different capacity. Also, the good oil storage capacity of the barge can be increased by using a trailer barge for large spills or spills in critical areas, whether in salt or fresh bodies of water. Write: Mr. Frank F.A. Bedford, 2870 Inlet Avenue, Victoria, B.C. V9A 2M7 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.

Dispositif d'assemblage de murs et de plafonds/298

Une entreprise allemande est disposée à octroyer sous licence un dispositif d'assemblage de murs et de plafonds utilisant des planches bouvetées d'une conception spéciale. Les planches sont passées à la brosse d'acier, puis enduites de teinture. Un jeu de pièces métalliques perforées facilite le montage de piliers, de poutres, de lambrissages, de revêtements de portes et de placards. Le dispositif comporte également plusieurs moulures de coin, tant intérieures qu'extérieures, qui assurent la rigidité de l'ensemble et en facilitent l'assemblage. (Voir l'illustration page 26.) Écrire à: Mr. Wolfgang Rosner, Strukturholz GmbH et Co., Am Steinbruch 7, 8121 Polling, Allemagne de l'Ouest et faire parvenir une copie de votre correspondance initiale au Consulat général canadien, Immermannstrasse 3, 4 Duesseldorf, Allemagne de l'Ouest.

Centrale hélioélectrique/298

La Japan Industrial Technology Association offre à une société canadienne la licence de fabrication d'une centrale hélioélectrique à plusieurs étages se composant de trois types de capteurs, d'un circuit échangeur de chaleur, d'un dispositif de stockage thermique et d'un turbo-alternateur. Les capteurs (un capteur plan renversé, deux concentrateurs rectilignes et deux concentrateurs ponctuels) sont montés en série. Le rendement global de l'installation est très élevé. Écrire à: Japan Industrial Technology Association, 20 Mori Building, 8F, 2-7-4 Nishi Shinbashi, Minato-ku, Tokyo 105, Japon et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, 3-38 Akasaka 7 — Chome, Minato-ku, Tokyo 107, Japon.

Appareil de récupération de pétrole déversé/298

Un inventeur canadien offre des droits non exclusifs quant à ses brevets canadien et américain concernant un appareil à séparer et à récupérer à monter sur un chaland de confinement. L'appareil comporte un bac de résidus; le chaland, quant à lui, est équipé d'un réservoir séparateur, d'un réservoir de stockage et d'une installation de pompage, permettant le prélèvement et l'entreposage du pétrole. L'appareil est relié fermement au chaland et ne peut se déplacer d'avant en arrière, mais il peut se déplacer verticalement et est commandé par un treuil sur le pont du chaland. L'appareil a un fonctionnement autonome, un débit de pompage élevé et peut être manoeuvré par deux hommes. Le chaland de confinement est utilisé comme "navire de service" ou de transport pendant toute la durée des travaux de récupération, ajoutant par le fait même un intéressant facteur d'économie. Le chaland a une bonne capacité de stockage qui peut être accrue au moyen d'un autre chaland remorqué, et ce pour des déversements plus importants ou survenant dans des endroits très vulnérables. L'appareil de récupération peut être maintenu en bonne position, peu importe les conditions atmosphériques et le débit de pompage. L'installation permet de démonter l'appareil et de lui substituer un appareil de capacité différente. L'addition d'un chaland remorqué augmente la capacité de stockage déjà intéressante du chaland principal, soit en eau salée, soit en eau douce. Écrire à: M. Frank F.A. Bedford, 2870 Inlet Avenue, Victoria, C.-B. V9A 2M7 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.

Navigational Aid/298

French inventor offers licensing rights to a Canadian company for a sighting device "NAVIRÉTRO" manufactured by TOPOLASTIC for which a patent is pending in Canada. The instrument permits the navigator of a ship to follow alignments using two landmarks or "seamarks" at the rear of a ship while continuing to keep watch in front. By means of its reflecting mirrors, the "NAVIRÉTRO" allows the observer to superimpose the image of the seamark behind him on that of the seamark in front of him, which he views directly. When this superimposition occurs, the eye of the observer is on the straight line joining the two seamarks. The instrument therefore makes it possible not only to follow an alignment, but also to determine progress once the alignment has been found. By means of the reflecting mirrors of the "NAVIRÉTRO", two seamarks behind the observer can be superimposed (no direct view is used in this case). The "NAVIRÉTRO" does not require any focussing or calculation. Write: Mr. G. Sauerwein, 3, rue de Val Martin, 78810 Feucherolles (France) and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, 35, avenue Montaigne, 75008 Paris, France.

Soldering Bits/298

West German inventor offers worldwide manufacturing and marketing rights for soldering bits for electric soldering irons and soldering equipment with insulating wrappers. The soldering iron consists of an upright pistol grip with a permanent magnet built into its wide socket providing an additional upright support of the soldering iron. Slip-on soldering bits permit rapid exchange without danger even when hot, adjustable low-frequency oscillations permit vibrating of the soldering bit according to the object involved for rubbing off the adhering oxide film or dirt and for uniform tin-coating. Used by radio buffs and in any fine soldering, the bits feature a saving of about 25 percent energy, better safety, high quality of joints, the use of less tin and a saving in work time. A secrecy agreement is required to obtain confidential data. Reference number S6352. Write: Dr. Dvorkovitz and Associates, P.O. Box 1748, Ormond Beach, Florida 32074 and send a copy of your initial correspondence to Canadian Consulate General, 900 Coastal States Building, 260 Peachtree Street, Atlanta, Georgia 30303.

Variable Valve-Timing Camshaft/298

National Research Development Corporation offers a Canadian company manufacturing and marketing rights under the patented Mitchell variable valve-timing (VVT) camshaft system which has been designed to overcome the disadvantage of the fixed-timing camshaft with a view to improving fuel consumption and increasing engine torque at the lower speeds. This is achieved by delaying the exhaust-valve opening as the speed falls, to extend the expansion stroke, and, at the same time, advancing the position of inlet-valve closing to increase torque. Inlet-

Aide à la navigation/298

Un inventeur français offre à une société canadienne les droits d'exploitation sous licence d'un appareil de visée "NAVIRÉTRO" fabriqué par la TOPOLASTIC et pour lequel un brevet est en instance d'acceptation au Canada. Cet instrument permet à un navigateur de suivre des alignements définis par deux points remarquables ou amers situés à l'arrière du navire tout en continuant à veiller devant. Grâce à ses miroirs, le "NAVIRÉTRO" permet de surposer l'image de l'amer situé derrière l'observateur à celle de l'amer situé devant lui et qu'il aperçoit en vision directe. Dès lors que cette superposition existe, c'est que l'oeil de l'observateur se trouve sur la ligne droite qui joint les deux amers. Il s'ensuit que l'appareil permet non seulement de suivre un alignement mais, se trouvant sur cet alignement, de faire le point de sa progression. Le "NAVIRÉTRO" permet par ses miroirs réfléchissants de superposer deux amers situés derrière l'observateur (la vision directe dans ce cas n'étant pas utilisée). Le "NAVIRÉTRO" ne comporte aucune mise au point et n'exige aucun calcul. Écrire à: M. G. Sauerwein, 3, rue de Val Martin, 78810 Feucherolles (France) et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, 35, avenue Montaigne, 75008 Paris, France.

Pannes de brasage/298

Un inventeur d'Allemagne de l'Ouest offre de vendre à tout pays les droits de fabrication et de mise en marché de pannes de brasage destinées aux fers et au matériel à braser électriques munis de gaines isolantes. Le fer à braser comprend une poignée pistolet munie d'un aimant permanent monté dans sa grande douille, ce qui constitue un support vertical supplémentaire. Les pannes s'emmanchent, ce qui permet de les remplacer rapidement et sans danger même si le fer est chaud. Le réglage des vibrations basse fréquence permet de faire vibrer la panne selon l'objet à travailler pour éliminer la pellicule d'oxyde ou les saletés collantes et pour assurer un étamage uniforme. Utilisées par les radioamateurs et les personnes qui font du brasage fin, ces pannes présentent les avantages suivants: sécurité accrue, qualité supérieure des joints, gain de temps, économie d'étain et d'environ 25 pour cent d'énergie. Il faut conclure une entente de discrétion pour obtenir les données confidentielles. Le numéro de référence est S6352. Écrire: Dr. Dvorkovitz and Associates, P.O. Box 1748, Ormond Beach, Florida 32074 et faire parvenir une copie de votre correspondance initiale au Consulat général du Canada, 900 Coastal States Building, 260 Peachtree Street, Atlanta, Georgie 30303.

Arbre à cames — Calage variable de la distribution/298

La National Research Development Corporation offre à une société canadienne les droits de fabrication et de mise en marché du dispositif breveté Mitchell relatif aux arbres à cames de calage variable de la distribution (VVT) conçus pour remédier aux problèmes inhérents à l'utilisation d'arbres à cames de calage fixe de la distribution, en vue de réduire la consommation d'essence et d'augmenter le couple du moteur à bas régime. Le procédé consiste à retarder l'ouverture de la soupape d'échappement à mesure que le régime baisse, à augmenter la course de

valve opening is also delayed, reducing valve overlap and improving the quality of emissions. The Mitchell system is a robust and simple design which has a short camshaft for each cylinder. The camshaft is driven by a short link which connects it to the drive from the crankshaft. The system is adaptable for single cylinder engines, twin-cylinder engines, flat-four engines or twin driven from the end of the crankshaft and for four-cylinder in-line motorcycle engines with a central sprocket. When the system is applied to an automobile engine with inlet and exhaust cams of equal duration, the valve timing can be arranged to operate over a range of:

Inlet-valve opening at 24° BTDC and closing at 64° ABDC

Exhaust-valve opening at 70° BBDC and closing at 18° ATDC

at high engine speed when the camshaft and driveshaft are concentric to:

Inlet-valve opening at 17° BTDC and closing at 47° ABDC

Exhaust-valve opening at 54° BBDC and closing at 18° ATDC

at low engine speed when camshaft and driveshaft are at maximum 3.5 mm eccentricity.

The prototype twin motorcycle engine has inlet and exhaust cams of different duration and a slightly greater range of timing:

Inlet-valve opening at 47° BTDC and closing at 65° ABDC

Exhaust-valve opening at 70° BBDC and closing at 30° ATDC

at maximum engine speed to:

Inlet-valve opening at 35° BTDC and closing at 46° ABDC

Exhaust-valve opening at 53° BBDC and closing at 30° ATDC

at low engine speed.

Other engine timings are possible, depending on cam profile. Development to date has been limited to motorcycle engines where the mechanism has been shown to work reliably and with a low noise level. In a vehicle, the Mitchell VVT system could lead to higher-ratio intermediate gears or, alternatively, a smaller engine. Whatever the application, engine performance will be improved both in terms of power output and fuel consumption, and exhaust gases will have reduced content of CO and unburnt hydrocarbons. (See illustrations page 26.) Write: Mr. Barry Hill, Mechanical and Civil Engineering Group, N.R.D.C., Kingsgate House, 66-74 Victoria Street, London, SW1E 6SL, England and send a copy of your initial correspondence to Commercial Division, Canadian High Commission, One Grosvenor Square, London, W1X 0AB, England.

détente et, en même temps, à avancer la position de fermeture de la soupape d'admission afin d'augmenter le couple. L'ouverture de la soupape d'admission est aussi retardée pour réduire le chevauchement des soupapes et améliorer la qualité des gaz d'échappement. Dans le dispositif Mitchell, de construction simple, mais robuste, chaque cylindre est relié à un arbre à cames court. L'arbre à cames est relié au vilebrequin par un raccord court. Le dispositif peut être adapté aux moteurs à cylindre unique, aux moteurs bicylindres, aux moteurs à plat à quatre cylindres, aux moteurs à deux cylindres opposés et aux moteurs à quatre cylindres en ligne avec pignon central. Dans le cas d'un moteur d'auto dont les soupapes d'admission et d'échappement ont la même durée d'ouverture, le calage peut se faire de façon à obtenir la plage de fonctionnement suivante:

angle d'ouverture de la soupape d'admission, 24° avant p.m.h. et angle de fermeture de 64° après p.m.b., et

angle d'ouverture de la soupape d'échappement de 70° avant p.m.b. et angle de fermeture de 18° après p.m.h.

et ce à régime élevé lorsque l'arbre à cames et le vilebrequin sont concentriques:

angle d'ouverture de la soupape d'admission de 17° avant p.m.h. et angle de fermeture de 47° après p.m.h.

angle d'ouverture de la soupape d'échappement de 54° avant p.m.b. et angle de fermeture de 18° après p.m.h.

à bas régime lorsque l'arbre à cames et le vilebrequin ont une excentricité maximale de 3,5 mm.

Pour le moteur de motocyclette expérimental bicylindre, les soupapes d'admission et d'échappement ont une durée d'ouverture différente et la plage de calage est légèrement plus grande:

angle d'ouverture de la soupape d'admission de 47° avant p.m.h. et angle de fermeture de 65° après p.m.b., et

angle d'ouverture de la soupape d'échappement de 70° avant p.m.b. et angle de fermeture de 30° après p.m.h.

à régime maximum:

angle d'ouverture de la soupape d'admission de 35° avant p.m.h. et angle de fermeture de 46° après p.m.b., et

angle d'ouverture de la soupape d'échappement de 53° avant p.m.b. et angle de fermeture de 30° après p.m.h.

à bas régime.

Il est possible d'obtenir d'autres valeurs de calage selon le profil des cames. Jusqu'à maintenant les perfectionnements se sont limités aux moteurs de motocyclettes et le fonctionnement du mécanisme s'est révélé fiable et silencieux. Dans les automobiles, le dispositif VVT de Mitchell pourrait entraîner l'utilisation de pignons intermédiaires à rapport de multiplication plus élevé ou bien de moteurs de plus petite cylindrée. Quelle que soit l'application, le rendement du moteur sera amélioré, tant du point de vue puissance que du point de vue consommation d'essence, et de plus la teneur des gaz d'échappement en CO et en hydrocarbures non brûlés sera réduite. (Voir les illustrations page 26.) Écrire à: M. Barry Hill, Mechanical and Civil Engineering Group, N.R.D.C., Kingsgate House, 66-74 Victoria Street, Londres, SW1E 6SL, Angleterre et faire parvenir une copie de votre correspondance initiale à la Division commerciale, Haut-commissariat du Canada, One Grosvenor Square, Londres, W1X 0AB, Angleterre.

Damage — Tolerant Reinforced Metal Structures/298

National Research Development Corporation is seeking licensees for the wide range of potential applications for suppressing the growth of fatigue cracks in metal structures when operating at typical design strain values (0.1% - 0.2%) by the use of a new type of reinforcing members that 1) are not fracturable as a consequence of loads and deformations of any magnitude applied to the rest of the composite structure, 2) can be prestressed in tension so that the rest of the structure is placed in compression. This characteristic has been achieved in practice by the use of two-part or duplex reinforcing members consisting of a core surrounded by circular-sectioned outer sheath. The core is also circular in section and has a diameter about 80% of that of the inner diameter of the sheath. It is slightly convoluted and is in strong frictional contact with the outer sheath. Because of the core geometry, the shear strength of this frictional contact falls as the tensile load carried by the core increases. (See illustration page 26.) Currently Rolls-Royce has been granted a non-exclusive license in the gas-turbine field and Helmets Ltd. has an exclusive field option for safety headgear. Companies interested in using or manufacturing damage — tolerant structures should 1) address technical enquiries to: Professor J.G. Morley, Wolfson Institute of Interfacial Technology, University of Nottingham, Nottingham, England NG7 2RD and, 2) discuss licensing arrangements with: Dr. R.N. Barraclough, Industrial Chemistry Group, N.R.D.C., Kingsgate House, 66-74 Victoria Street, London, SW1E 6SL, England and send a copy of your initial correspondence to Commercial Division, Canadian High Commission, One Grosvenor Square, London, W1X 0AB, England.

Éléments structuraux métalliques à résistance améliorée au bris/298

La National Research Development Corporation est à la recherche de personnes intéressées aux nombreuses utilisations possibles d'un nouveau type d'élément structural visant à l'élimination des fissures dues à la fatigue, dans les structures métalliques soumises à des déformations nominales types (0.1 % à 0.2 %). Il s'agit d'un élément qui ne peut se fissurer sous l'effet des charges et des déformations, quelle que soit l'importance de ces forces appliquées au reste de la structure composée; cet élément peut également être soumis à une tension préalable, de sorte que le reste de la structure ne subit que des efforts en compression. En pratique, ceci a été rendu possible par l'utilisation d'éléments structuraux en deux pièces, constitués d'une âme et d'une enveloppe extérieure circulaire. L'âme, également de section circulaire, présente un diamètre d'environ 80 % plus petit que le diamètre intérieur de l'enveloppe. Elle est légèrement aplatie et frotte contre l'enveloppe. En raison de la configuration de l'âme, la résistance au cisaillement diminue à mesure qu'augmente la résistance de l'âme à la traction. (Voir l'illustration page 26.) Jusqu'à maintenant on a accordé une licence non exclusive à la firme Rolls-Royce dans le domaine des turbines à gaz et une licence avec option d'exclusivité à la Helmets Ltd. dans le domaine des casques de sécurité. Les sociétés intéressées à utiliser ou à fabriquer des éléments structuraux, à résistance améliorée au bris doivent, en premier lieu, faire parvenir leur demande de renseignements techniques au professeur J.G. Morley, au Wolfson Institute of Interfacial Technology, University of Nottingham, Nottingham, England, NG7 2RD, puis discuter des mesures d'acquisition des licences avec le docteur R.N. Barraclough, Industrial Chemistry Group, N.R.D.C., Kingsgate House, 66-74 Victoria Street, Londres, SW1E 6SL, Angleterre et faire également parvenir une copie de la correspondance initiale à la Division commerciale, Haut-commissariat du Canada, One Grosvenor Square, Londres, W1X 0AB, Angleterre.

Recently Issued Canadian Patents Available for Licensing or Sale

Liste des brevets canadiens disponibles pour octroi de licence ou vente

Note:

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

Note:

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

Patent 1,085,116

Tread Bands for Use in Tire Retreading/298

A sinker unit for preparing an annular unvulcanised tread band comprises an annular mould for supporting the tread band and an expandable annular sinker member for forcing the tread band against the inner surface of the mould. The sinker member includes side walls which are resiliently biased outwardly so that the sinker member is maintained in a tensioned condition when it is forced against the tread

Brevet 1,085,116

Bandes de roulement pour le rechapage de pneus/298

band. The sinker member may be forced against the tread band by means of an expanding air bag underneath the sinker member. Write: Beverley Limited, Longueville, St. Saviour, Jersey, British Channel Islands, England and send a copy of your initial correspondence to Commercial Division, Canadian High Commission, One Grosvenor Square, London, W1X 0AB, England.

Patent 1,085,163

Hanger Clip for Displaying Articles for Suspended Ceilings/298

A hanger clip for attachment to suspended ceilings of the type having inverted T-shaped overhead beams for supporting ceiling panels is formed from a continuous thin elongated strip with a U-bend portion formed in approximately the middle of the strip having a depth at least sufficient to receive the horizontal flange of the overhead beam, a downwardly extending portion which has formed in the lower end thereof a means for attachment to an article to be displayed, and a vertically upright portion which is adapted to

Brevet 1,085,163

Attaches permettant de suspendre des articles à un plafond suspendu/298

be placed between the vertical leg of the overhead beam and a ceiling panel installed on that beam to hold the hanger clip securely in place. In another embodiment, a pair of hanger clips are fastened together at their lower ends and then placed on opposite sides of the overhead beam. Write: True F. Sease, 10491 Air Hill Road, Brookville, Ohio 45309, U.S.A. and send a copy of your initial correspondence to Canadian Consulate, Illuminating Building, 55 Public Square, Cleveland, Ohio 44113, U.S.A.

Patent 1,085,190

Case-Hardening Alloy Steel and Case-Hardened Article Made Therefrom/298

A carburizing alloy steel and case-hardened articles made therefrom, having high core impact strength and fracture toughness combined with high case hot hardness and temper resistance at 400°F (204°C), containing 0.06-0.16% carbon, 0.2-0.7% manganese, 0.5-1.5% silicon, 0.5-1.5% chromium, 1.5-3% nickel, 1-4% copper, 2.5-4% molybdenum, up to 0.4% vanadium, and the balance iron and incidental impurities. The alloy may also contain small

Brevet 1,085,190

Acier allié cimenté et article fabriqué de ce matériau/298

amounts of phosphorus, sulfur, nitrogen, aluminum, columbium, titanium, zirconium, and calcium. Write: Carpenter Technology Corporation, 101 West Bern Street, Reading, Pennsylvania 19603, U.S.A. and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102, U.S.A.

Patent 1,085,197

Relay Valve and Tracker Bar or Tubing Assembly Apparatus for Player Piano Action Playback by Magnetic Recording/298

This apparatus pertains to mechanical and electromagnetic apparatus for controlling player piano operation. The

Brevet 1,085,197

Piano électro-magnétique utilisant un ruban magnétique/298

conventional player piano paper tape which opens and closes pneumatic holes in a tracker bar is replaced by a

valve board and plurality of electromagnetic valves. Each electromagnetic valve operates to control air passage through one of the holes in the tracker bar. Write: Harry A. Pomber, 163 Shannon Road, Sault Ste. Marie, Ontario

P6A 4J9 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.

Brevet 1,085,204

Câble à fibres optiques et procédé de réalisation/298

Câble à fibres optiques multiples utilisables séparément pour la transmission longue distance de signaux téléphoniques, de transmission de données et télévisuelles. Il comprend un noyau central autour duquel sont disposés concentriquement les conducteurs optiques constitués chacun d'une fibre optique protégée d'une première gaine

Patent 1,085,204

Optical Fiber Cable and Manufacturing Process/298

en polyéthylène. Afin d'éviter les distorsions de la fibre optique la deuxième gaine est tendue. Écrire: Les Câbles de Lyon, 170, avenue Jean Jaurès, 69353 Lyon Cedex 2, France et faire parvenir copie de votre correspondance initiale à la Division commerciale, Ambassade du Canada, 35, avenue Montaigne, 75008 Paris, France.

Patent 1,085,279

Measurement of Alcohol Levels in Body Fluids/298

Method includes the step of providing a predetermined volume of body fluid, oxidizing ethanol in the body fluid by the action of an alcohol oxidase in a suitable buffer in the presence of excess molecular oxygen and measuring the rate of oxygen consumption, the oxidation taking place in the presence of an agent adapted to suppress the formation of oxygen by peroxide decomposition. Further, a kit for use in the above method comprises (i) a container containing an alcohol oxidase in a suitable buffer, the activity of the

Brevet 1,085,279

Dosage de l'alcool dans les liquides organiques/298

oxidase being in the range 1 to 1000 units (as herein defined) per ml; and (ii) a container containing the agent adapted to suppress the formation of oxygen by peroxide decomposition in a suitable buffer. Write: Chembro Holdings (Proprietary) Limited, 105 Quartz Street, Hillbrow, Johannesburg, South Africa and send a copy of your initial correspondence to Canadian Embassy, Nedbank Plaza, P.O. Box 26006, Arcadia, Pretoria 0007, South Africa.

Patent 1,085,284

Forced Draft Burner/298

Unit comprises: a flame chamber, a conduit for conducting fuel to the flame chamber, a blast tube for conducting air from an air opening on a side of the blast tube adjacent a first end of the blast tube to a second end of the blast tube adjacent the flame chamber. An impeller-type fan supplies pressurized air to the air opening. The fan has an axis of rotation parallel to the longitudinal axis of the blast tube and has impeller blades passing within the blast tube as the fan rotates, so the pressurized air enters the air

Brevet 1,085,284

Brûleur à air pulsé/298

opening generally tangential to the blast tube and passes along the blast tube to the second end in vortical flow. There are vanes for mixing the fuel and air in the flame chamber. Write: Pacific Turbo Flame Ltd., 255 East 7th Avenue, Vancouver, British Columbia V5T 1M7 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.

Patent 1,085,314

Method and Device for Separation of Suspended Material from a Fluid Flow/298

Suspended solid particles are separated from a fluid flow by dividing the flow into partial fluid flows in flow channels having an upper filter surface travelling upstreams and a lower filter surface travelling downstreams, controlling the flow velocity in the channels such that the flow is turbulent but at the same time low enough to allow for sedimentation of the suspended material to form a clear top layer off which more than half of the liquid fed to the channel is

Brevet 1,085,314

Méthode et dispositif de séparation des matières en suspension dans un fluide en circulation/298

filtered through the upper filter surface, suctioning less than half of the liquid fed into the channel through a sediment formed on the lower filter surface, and finally removing the sediment from the lower surface. Write: Parainen Kalkki Oy — Pargas Kalk Ab, 21600 Parainen, Finland and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Pohjois Esplanadi 25B, 00100 Helsinki 10, Finland.

Patent 1,085,341**Method of Deuterium Isotope Separation and Enrichment/298**

The present invention relates to deuterium isotope separation and enrichment using infrared laser technology in combination with chemical processes. A present invention provides a method of separating deuterium from certain naturally occurring sources using tuned infrared lasers to selectively decompose specified classes of organic molecules (i.e. RX) into enriched molecular products containing deuterium atoms. The deuterium containing molecules are easily separated from the starting material by absorption, distillation or other simple chemical separation techniques and methods. After evaporation such deuterium containing molecules can be burned to form water with an enriched

Brevet 1,085,341**Méthode de séparation et d'enrichissement des isotopes de deutérium/298**

deuterium content or pyrolyzed to form hydrogen gas with an enriched deuterium content. The undecomposed molecules and the other reaction products which are depleted of their deuterium containing species can be catalytically treated, preferably using normal water, to restore the natural abundance of deuterium and such restored molecules can then be recycled. Write: Sidney W. Benson, 533 Palos Verdes Drives West, Palos Verdes Estates, California 90274, U.S.A. and send a copy of your initial correspondence to Canadian Consulate General, 510 West Sixth Street, Los Angeles, California 90014, U.S.A.

Patent 1,085,344**Electrochemical Cells/298**

Novel electrochemical cells are provided herein. In such cells, one electrode is an expanded mass of particulate material, means for passing an electrolyte through the expanded electrode and a counterelectrode in direct electrical contact with at least some particles of the expanded electrode, the counterelectrode being electrically conducting but having a contact resistance in air between itself and copper test surface of at least 10 times the contact resistance under the same conditions of measurement between the copper test surface and another surface of copper. An electrolyte is passed through the particulate electrode, possibly for fluidising and/or circulating the particles of the electrode. Suitable particulate materials in-

Brevet 1,085,344**Pile électrochimique/298**

clude ruthenium oxide, lead oxide and iron oxide. Whereas in previous cells of this kind, a diaphragm has been arranged between the particulate electrode and the counterelectrode of the cell, it has been discovered that such a cell can be operated with the counterelectrode actually in contact with particles of the particulate electrode provided the material of the surface of the counterelectrode is suitably chosen. Write: National Research Development Corporation, 66-74 Victoria Street, London SW1, England and send a copy of your initial correspondence to Commercial Division, Canadian High Commission, One Grosvenor Square, London, W1X 0AB, England.

Patent 1,085,348**Angularly Disposed Blades for a Cylindrical Suspension Classifier/298**

A classifying apparatus for a suspension, especially for a pulp suspension, having a screen drum, means for feeding the suspension to one side of the screen drum, for removing thickened suspension from the same side of the screen drum and liquid from the opposite side of the screen drum, blades inclined in relation to their direction of rotation so that any one of the ends of the inclined blades is substantially on the same screen drum line

Brevet 1,085,348**Lames inclinables à angles variables pour classificateur cylindrique par suspension/298**

parallel to the screen drum axis as the opposite end of some other blade and fitted to sweep at least one surface of the screen drum, and driving means for moving the screen drum or the blades in relation to each other. Write: Oy Tampella Ab, P.O. Box 256, SF-33100, Tampere 10, Finland and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Pohjois Esplanadi 25B, 00100 Helsinki 10, Finland.

Patent 1,085,495**Control Circuits in or for Washing, Drying and the Like Machines or Other Apparatus/298**

A control circuit for controlling current supply to machines, such as a washing machine, the control circuit controlling the state of a first switch adapted to switch current to control means associated with the machine, functional means being monitored, such monitoring being operative to, should a fault occur, cause the first switch to open, and a back-up circuit, responsive to said monitors, including switching means operative to disconnect the current from

Brevet 1,085,495**Circuits de commande pour machines à laver, sécheuses et autres machines ou appareils semblables/298**

the functional means if a fault occurs irrespective of the state of the first switch. Write: Servis Domestic Appliances Limited, Darlaston Road, Kings Hill, Wednesbury, West Midlands, England and send a copy of your initial correspondence to Commercial Division, Canadian High Commission, One Grosvenor Square, London, W1X 0AB, England.

Patent 1,085,570**Modular Building Structure/298**

In a modular wall and floor structure, the edges of wall panels have upwardly directed hooks projecting outwardly from their opposite vertical edges. Short lengths of multi-sided hollow extrusion have a downwardly opening longitudinal slot in each side which slots receive the panel hooks of adjacent panels for connecting such panels to form an exhibit array. Adjacent ends of overhead beams are connected to each other and to the upper ends of the panels by downwardly directed beam hooks received in upper longi-

Brevet 1,085,570**Élément de construction modulaire/298**

tudinal slots in the lengths of extrusion. The lower portions of the connected or unconnected panels can be clamped between modular floor components. Write: David C. Jensen, 81 West Cordova Street, Vancouver, British Columbia V6B 1C8 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.

Patent 1,085,592**Countercurrent Decantation/298**

In countercurrent decantation, upwardly flowing liquid is treated with downwardly falling solids in a progressive series of vertically stacked treatment cells. Solids fall through a valve from one cell to the next. The valve is a buoyant sphere which will sink, to open, under a weight of solids, but the valve is sufficiently buoyant to close when

Brevet 1,085,592**Décantation par circulation à contre-courant/298**

there is still enough solid queuing thereon to prevent liquid from passing through it. Write: National Research Development Corporation, 66-74 Victoria Street, London SW1E 6SL, England and send a copy of your initial correspondence to Commercial Division, Canadian High Commission, One Grosvenor Square, London, W1X 0AB, England.

Patent 1,085,620**Process for the Production of Blister Copper from Ores and Concentrates/298**

In the processing of sulphidic copper ores containing as impurities other valuable metals, it is desirable to first try to separate the copper from the other metals. The copper may then be more easily purified and the remaining metals may be recovered. There is no hydro- or pyro-metallurgical process for so treating these ores. The present invention seeks to overcome this drawback by providing a process for the production of blister copper from copper ores or concentrates which contain harmful or economically significant amounts of other nonferrous metals comprising using flash smelting, known *per se*, for the primary smelting of the concentrate to produce a matte or metal or both containing 70-98% Cu and a slag containing less than 1% S from the concentrate; recycling flying dust to the feed, reducing the produced slag containing less than 1% S in an electric furnace by means of coke at a temperature of

Brevet 1,085,620**Procédé de production de cuivre ampoulé à partir de minerais ou de concentrés/298**

1300-1550°C to a copper concentration of less than 0,5% and mainly into a copper-lead-iron alloy; converting mattes, raw metals or raw metal alloys or a mixture thereof produced in the flash smelting furnace and the electric furnace into blister copper; feeding slag produced therein and containing less than 1% S together with the slag from the flash smelting furnace into the electric slag purification furnace; purifying the blister copper obtained from the converter into anode copper in an anode furnace; and feeding the produced flying dust, which has a high nonferrous metal content including zinc and lead, but a low content of copper, as a raw material into the process for producing the metal. Write: Outokumpu Oy, Outokumpu, Finland and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Pohjois Esplanadi 25B, 00100 Helsinki 10, Finland.

Patent 1,085,657**Method of Producing Homogeneous Mixed Metal Oxides and Metal-Metal Oxide Mixtures/298**

Metal powders, metal oxide powders, and mixtures thereof of controlled particle size are provided by reacting an aqueous solution containing dissolved metal values with excess urea. Upon heating, urea reacts with water from the solution leaving a molten urea solution containing the metal values. The molten urea solution is heated to above about 180°C whereupon metal values precipitate homogeneously as a powder. The powder is reduced to metal or calcined to form oxide particles. One or more metal oxides

Brevet 1,085,657**Méthode de production d'oxydes de métal mixtes et homogènes, et de mélanges d'oxydes métal-métal/298**

in a mixture can be selectively reduced to produce metal particles or a mixture of metal and metal oxide particles. Write: Mr. James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, DC 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102, U.S.A.

Patent 1,085,772**Apparatus for Electrophoresis Separation/298**

An apparatus is disclosed for simultaneously performing electrophoresis separations on a plurality of slab gels containing samples of protein, protein subunits or nucleic acids. A reservoir of buffer solution is divided into three compartments by two parallel partitions having vertical slots spaced along their length. A sheet of flexible, electrically insulative material is attached to each partition and is provided with vertical slits aligned with the slots. Slab-gel holders are received within the slots with the flexible material folded outwardly as flaps from the slits to overlay portions of the holder surfaces and thereby act as electrical and liquid seals. An elongated, spaghetti-like gel containing a sample of specimen that was previously separated by

Brevet 1,085,772**Appareil pour effectuer des séparations par électrophorèse/298**

isoelectric focusing techniques is vertically positioned along a marginal edge portion of the slab gel. On application of an electrical potential between the two outer chambers of buffer solution, a second dimensional electrophoresis separation in accordance with molecular weight occurs as the specimen molecules migrate across the slab gel. 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.

Patent 1,085,786**Cartridge for Grouting an Anchor Element in a Hole of a Support Structure/298**

A grouting cartridge is described for placing in a hole of a support structure. The cartridge is capable of rapidly forming a solid grout about an anchor element where the anchor element is thrust into the hole. The cartridge comprises a frangible outer tubular casing fabricated of plastic or the like and containing a uniform mixture of a water-hardenable cement and a multitude of frangible microcapsules which hold droplets of water. One or more of these cartridges is placed in the borehole, and the anchor element in a one-step operation is inserted therein, and preferably rotated, to pierce the casing and rupture the microcapsules to uniformly wet the cement to form a cement paste.

Brevet 1,085,786**Douille pour le scellement au coulis d'une pièce d'ancrage/298**

The cement paste under the pressure of the anchor element flows into intimate contact with the hole wall of the support structure and into intimate contact with the surfaces of the anchor element. The cement paste rapidly solidifies forming a solid grout between the support structure and the anchor element to affix the anchor element securely to the support structure. Robert E. Simpson, P.O. Box 2881, Spokane, Washington 99220, U.S.A. and send a copy of your initial correspondence to Canadian Consulate General, 412 Plaza 600, Sixth and Stewart, Seattle, Washington 98101, U.S.A.

Patent 1,085,918**Alternators with Hydromagnetic Engines/298**

This invention relates to alternators with hydromagnetic engine prime movers, generating alternating current. Contrarotating alternators, parallel connected, are a paired power cell unit. Each alternator stationary housing contains insulated armature windings and encloses a hydromagnetic engine. The prime movers are direct current hydromagnetic motor generator engines, each containing upper and lower semitoroidal vortex generators and a central toroidal flysphere rotor, (accelerator). A gyroscopic paramagnetic flysphere, magnetically suspended, rotates on the central vertical axis. A diamagnetic plasma working fluid envelopes the cathodic flysphere. The external engine housing is a paradiamagnetically suspended rotor. Each rotor contains upper and lower insulated paramagnetic bearings, inner circumferential upper and lower anodes and inner circumferential central cathode, insulated hydromagnetic shunt current windings, insulated field excitation windings to supply outer circumferential flush mounted electromagnets. Dynamic tube balancers girdle the horizontal circumference of each rotor, compensating unbalanced kinetic momentum. The power cell unit fur-

Brevet 1,085,918**Alternateurs à moteur hydromagnétique/298**

nishes on site "step up" direct current static power, (fuel cell) conversion to alternating current rotating power, (alternator) at thirty percent efficiency. Natural gas fuelled, fuel cell stacks supply power for initial flysphere rotation, excitation, continuous plasma generation and recycling subsystems. Helium plasma, cesium added, feeds the vortex generators. Flysphere rotation magnetically confines plasma, pulsating direct current flows. Accelerator motion develops. Solenoid torque rotates field rotor inducing alternating current in alternator armature. When alternator loads increase, requiring higher terminal voltages, hydromagnetic engines reduce shunt current, rotation speed increases, alternator field resistance decreases, field excitation increases. When alternator loads decrease, the process is reversed. Write: Arthur C. Northover, 330 Eagle Street, Newmarket, Ontario L3Y 1K1 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.

Patent 1,085,921**Method of Improving the Temperature Stability of a Voltage Source, and a Stabilized Voltage Source for Carrying out the Method/298**

In a stabilized voltage source having an actual-value voltage gauge which is temperature dependent, the overall temperature stability of the voltage source is improved by providing a reference-value voltage with an adjustable temperature coefficient, said temperature coefficient being so adjusted that it substantially compensates for the temperature dependence of the actual-value voltage gauge within the temperature range used. The reference voltage having an adjustable temperature coefficient is preferably

Brevet 1,085,921**Méthode d'amélioration de la stabilité de la température d'une source de tension et source de tension ainsi améliorée/298**

obtained by combining a first voltage which is essentially independent of temperature with a second voltage being strongly dependent on temperature, the degree of mutual influence of said combined voltages being regulated to adjust said temperature coefficient. Write: Outokumpu Oy, Toolonkatu 4, 00100 Helsinki 10, Finland and send a copy of your initial correspondence to Commercial Division, Canadian Embassy, Pohjois Esplanadi 25B, 00100 Helsinki 10, Finland.

Patent 1,085,944**Shock and Vibration Sensitive Switch/298**

Disclosed herein is a shock- or vibration-sensitive sensor for use as a switch in a security system, comprising a substantially toroidally-shaped body having an inwardly-facing surface area and an electrically conductive outwardly-facing surface area. The body is normally loosely seated upon at least a pair of contact elements within a housing. The contact elements cooperate with the conductive outwardly-facing surface area of the body to normally close an electrical circuit which will be interrupted whenever the body loses contact with at least one of the contact elements due to bouncing motion accompanied by displacement caused by shock or vibration applied to the sensor. A center post loosely extends through the aperture in the body, the center post limiting the range of possible dis-

Brevet 1,085,944**Commutateur détecteur de chocs et de vibrations/298**

placement of the body by contacting the inwardly-facing surface area of the body upon shock- or vibration-induced displacement of the body. Thus, the center post prevents the conductive outwardly-facing surface area of the body from contacting any of the inner surfaces of the housing. In accordance with a specific aspect of the invention, sharp, pointed contact elements are used which penetrate any nonconductive film if present on the conductive outwardly-facing surface area of the body whose mass is of sufficient magnitude to cause such penetration. Write: Litton Industries, Inc., 360 North Crescent Drive, Beverly Hills, California 90210, U.S.A. and send a copy of your initial correspondence to Canadian Consulate General, 510 West Sixth Street, Los Angeles, California 90014, U.S.A.

Patent 1,086,007**Bulk Loading Facility Having a Drop Way/298**

Improvement in a bulk loading facility having a fixed deck with a vertical column as a part thereof and a drop way hinged to the deck so that it can be raised or lowered for loading. The improvement comprises handrail and the post hinged to each other, the post hinged to the drop way, the handrail hinged to the column, and a four-bar mechanism consisting of the drop way, the handrail, the post and a portion of the column between the handrail and the drop way. This four-bar mechanism is constructed so that the sum of

Brevet 1,086,007**Dispositif de chargement de matières en vrac avec glissière orientable et rétractile/298**

the lengths of the column portion and the top rail is greater than the sum of the lengths of the drop way and the post. The drop way, therefore, has an over-center action during raising thereof which assists in maintaining the drop way in its raised position. Write: Richard Durrant, 1124 Cambridge Crescent, Sarnia, Ontario N7S 3Z9 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.

Patent 1,086,012**Method for Treading Tires/298**

A method of applying a pre-vulcanized tread band to a tyre carcass comprises placing the tread band in an annular mould, the dimensions of the mould and tread band being chosen such that the radius of curvature of the inner face of the tread band is greater than that of the outer periphery of the tyre carcass and bonding the carcass to the tread band. When the assembly of tread band and carcass is in-

Brevet 1,086,012**Méthode pour poser une bande de roulement sur un pneu/298**

flated on a wheel the ground engaging surface of the assembly is compressed longitudinally. Write: Beverly Limited, Longueville, St. Saviour, Jersey, British Channel Islands, U.K. and send a copy of your initial correspondence to Commercial Division, Canadian High Commission, One Grosvenor Square, London, W1X 0AB, England.

Patent 1,086,017**Dwelling for Northern Climates/298**

A dwelling for cold climates in the shape of a portion of a right circular cone cut along a longitudinal plane perpendicular to the base of the cone. The cone portion is laid on its side and the longitudinal plane forms a floor for the dwelling, which is of triangular shape. The base wall of the dwelling is arc-shaped and is provided with a plurality of windows. The outside and inside surfaces of the roof and side walls of the dwelling converge in the direction of the apex portion of the dwelling. The dwelling is oriented such that its apex portion faces the direction of the prevailing

Brevet 1,086,017**Habitation pour régions septentrionales/298**

winds, which are generally north or northwest in the cold regions, whereby the base wall faces the sun. There is a minimum heat loss due to the wind and the light rays entering the windows of the base wall are reflected onto the floor by the inclined inside surfaces of the dwelling. Write: Marcel Saucier, 391 Abitibi Avenue, Malartic, Quebec JOY 1Z0 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.

Patent 1,086,211**Oil Burner/298**

An oil feed system for an oil burner includes an oil pre-heater through which the oil is pumped to ensure that the oil fed to the burner nozzle is warm enough to ignite easily and completely. A purge line is provided to recirculate the standing oil in the supply line which leads to the burner nozzle back through the heater so that on start up cold oil is not sprayed from the nozzle. A solenoid valve in the purge line opens for a predetermined time initially during which oil is recirculated. It is not necessary to close off the burner nozzle during this period because the nozzle pre-

Brevet 1,086,211**Brûleur à mazout/298**

sents a considerably higher resistance to the oil than the purge line which is connected through the solenoid valve to the suction side of the feed pump with the result that the cold oil flows directly to the purge line. Write: John D. Bears, Belle River Post Office, Prince Edward Island C0A 1B0; Kenneth R.D. Emery, Wood Islands, Belle River Post Office, Prince Edward Island C0A 1B0 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.

Patent 1,086,257**Electrolytic Trapping of Iodine from Process Gas Streams/298**

A method for removing molecular, inorganic, and organic forms of iodine from process gas streams comprises the electrolytic oxidation of iodine in the presence of cobalt-III ions. The gas stream is passed through the anode compartment of a partitioned electrolytic cell having a nitric acid anolyte containing a catalytic amount of cobalt to cause the oxidation of effluent iodine species to aqueous soluble

Brevet 1,086,257**Capture électrolytique de l'iode porté dans des gaz de combustion/298**

species. Write: James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S. Department of Energy, Washington, D.C. 20545 and send a copy of your initial correspondence to Canadian Consulate, 3 Parkway Building, Suite 1310, Philadelphia, Pennsylvania 19102, U.S.A.

Patent 1,086,266**Garbage Collecting Truck/298**

A garbage collecting truck having two separate compartments, one to receive recyclable materials, such as paper, fabric and the like, and the other to receive the remainder mainly non-recyclable waste of the garbage. The two compartments are of elongated shape, are mounted side by side on the truck chassis longitudinally of the same and both are inclined upwardly towards the front of the truck. Both compartments can be loaded from the rear of the truck by persons standing on the ground, and each has a hydraulic ram to push the loaded material forwardly. The recyclable material in the one compartment is formed into successive bales, any two of which can be stacked on a

Brevet 1,086,266**Camion ramasse-ordures/298**

platform located ahead of the elevated discharge outlet of said one compartment. The non-recyclable waste collection compartment includes a lateral dumping outlet, a normally-latched door panel pivotally hung to close the dumping outlet, and, when unlatched, to open upon laterally outward pivoting of the compartment to dump the wastes through the dumping outlet. Write: Denis St-Gelais, 110 de la Barre Street, Longueuil, Quebec J4K 1A3 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.

Patent 1,086,352**Pipe Coupling System/298**

In pipe coupling systems, elaborate equipment and tools are required for their assembly and disassembly; the disassembly procedure is time consuming and little, if any, of the fittings can be reused. The present invention relates to improvements in pipe attachment system to their fittings, particularly adapted for use with smooth surface pipe and tubing where assembly and disassembly is easily made

Brevet 1,086,352**Système de raccordement à tuyaux/298**

with simple tools or without tools. Write: Alain de Crombrugghe, 44 St. Alexandre, Limbour, Quebec J8V 1B4 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.

Patent 1,086,377**Method of Preparing Electrolyte for Use in Fuel Cells/298**

An electrolyte compact for fuel cells includes a particulate support material of lithium aluminate that contains a mixture of alkali metal compounds, such as carbonates or hydroxides, as the active electrolyte material. The porous lithium aluminate support structure is formed by mixing alumina particles with a solution of lithium hydroxide and another alkali metal hydroxide, evaporating the solvent from the solution and heating to a temperature sufficient to react the lithium hydroxide with alumina to form lithium aluminate. Carbonates are formed by reacting the alkali metal hydroxides with carbon dioxide gas in an exothermic

Brevet 1,086,377**Méthode de préparation d'électrolyte pour utilisation dans des piles à combustible/298**

reaction which may proceed simultaneously with the formation with the lithium aluminate. The mixture of lithium aluminate and alkali metal in an electrolyte active material is pressed or otherwise processed to form the electrolyte structure for assembly into a fuel cell. 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.

Patent 1,086,415**Carriers for Mounting Lightning Protectors/298**

A lighting protector carrier comprises a lamellar element made of electrically insulating material and having a plurality of sets of holes therethrough each set of holes defining a respective socket to receive a respective lightning protector device, and a plurality of electrically conducting terminals for making electrical connection to lightning protector devices at a front face of the element. One hole of each set of holes accommodates a terminal and the terminals are electrically interconnected by one or more bus-

Brevet 1,086,415**Supports de montage pour parafoudres/298**

bars at the rear of the element. At least the front surface of the element is shaped such that one hole of each set is separated from another hole of the set by a protruding portion of the element interposed between said one hole and said another hole. Write: The Post Office, 23 Howland Street, London, W1P 6HQ, England and send a copy of your initial correspondence to Canadian High Commission, One Grosvenor Square, London, W1X 0AB, England.

Patent 1,086,428**Real Time Programmable Digital Register Analyser/298**

An apparatus is provided for analyzing output signals of digital devices. The apparatus comprises a plurality of comparison registers which evaluate the digital output signals, each comparison register including rotary switches for decoding the output signals under analysis. Programming switches permit to generate a function signal through at least one output channel provided in each comparison register when the output signals and the decoded value of said register are in a predetermined relationship. The operations of all comparison registers are selectively controlled by means of a logic circuit. As a result, a function signal is issued by the comparison register through a

Brevet 1,086,428**Analyseur pour registre digital programmable en temps réel/298**

given channel in accordance with a predetermined program set by the switches and under the control of the logic circuit means, whenever a predetermined relationship exists between the output signals from the digital device under analysis and the value decoded on the comparison register. Write: Gilles Saint-Hilaire, 1743, rue Michel, Ste-Julie, Québec J0L 2C0; Jean-Marc Guay, 735, boul. Marie-Victorin, Boucherville, Québec J4B 1X6 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.

Patent 1,086,434

Tertiary Treatment of In-Tank Septic Sewage/298

The present invention concerns a means of providing tertiary treatment to incoming raw sewage to the septic tank. This is accomplished by providing an improved type sewage treatment container having three tertiary treatment chambers. In a first treatment chamber an artificial turbulent area is created containing therein a quantity of selected sorptive coal fines. Incoming raw sewage is directed towards the turbulent area wherein it is intermixed with the sorptive coal fines. Periodically the effluent from the first chamber is passed into the second chamber wherein second stage sedimentation occurs. The effluent from the second chamber is then passed into a third sedimentation

Brevet 1,086,434

Traitement tertiaire des eaux domestiques dans la fosse septique/298

chamber wherein third stage sedimentation occurs, the settled sludge from the third sedimentation chamber is passed by means of a steeply sloped floor down through an opening in the lower portion of the second and third divider wall of the sedimentation chambers, the effluent from the said third sedimentation chamber is then discharged as treated effluent by the outlet means to surface waters. Write: Cyril T. Jones, 8413 Lochside Drive, R.R. 1, Saanichton, British Columbia V0S 1M0 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.

Patent 1,086,444

Process for Loading Weak-Acid Ion Exchange Resin with Uranium/298

A method for loading ion exchange resins is described. The process comprises contacting a weak acid cation exchange resin in the ammonium form with a uranyl fluoride salt solution. Write: Mr. James E. Denny, Assistant General Counsel for Patents, Office of the General Counsel, U.S.

Brevet 1,086,444

Procédé pour charger avec de l'uranium des résines échangeuses d'ions à acide faible/298

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.

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Navy

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Arlington, Virginia 22217

PAT-APPL-6-085 180

An Electronic Sensor for Vapor-Pressure Deficit of the Air/298

Filed October 15, 1979, by the Department of Agriculture. An electronic sensor for measuring the deficit of the vapor pressure in the atmosphere is disclosed. As an index of the humidity status of the air, vapor-pressure deficit (VPD) is considered superior to relative humidity (RH) because it is

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DOE

Mr. James E. Denny
Assistant General Counsel for Patents
Office of the General Counsel
U.S. Department of Energy
Washington, D.C. 20545

NASA

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Capteur électronique de chutes de la pression de vapeur atmosphérique/298

more closely associated with evaporation rate. The sensor of this invention, by means of thermistors and diodes used as wet-and-dry bulb probes, produces two voltages which when multiplied by an analog multiplier result in an output voltage proportional to VPD. Write: NTIS.

PAT-APPL-6-110 860**Controlled Release of Bioactive Materials
Using Alginate Gel Beads/298****Libération contrôlée de produits bioactifs
au moyen de perles de gel d'alginate/298**

Filed January 9, 1980, by the Department of Agriculture. Alginate gel beads containing bioactive materials dispersed therein are the product and the process of this invention. These beads can be made to either float or sink in

aqueous environments, and are capable of providing the controlled release of their bioactive materials when applied to terrestrial or aqueous environments. Write: NTIS.

PAT-APPL-6-132 584**Partial Argentation Resin
Chromatography for Separation of
Polyunsaturated Fatty Esters/298****Séparation d'esters gras polyinsaturés
par chromatographie au résine
partiellement argentée/298**

Filed March 21, 1980, by the Department of Agriculture. Mixtures containing polyunsaturated fatty esters are fractionated by partial argentation resin chromatography, in

which the mixture is eluted through a column packed with a partially silvered sulfonic acid ion exchange resin. Write: NTIS.

PAT-APPL-6-132 595**Ketose Sugars/298****Cétooses/298**

Filed March 21, 1980, by the Department of Agriculture. This invention relates to a process for making ketose

sugars and, more specifically, to a process for converting in high yield aldose sugars to ketose sugars. Write: NTIS.

PAT-APPL-6-132 596**Tool for Welding Plastics/298****Outil de soudage des plastiques/298**

Filed March 21, 1980, by the Department of Agriculture. The invention relates to a device for welding thermoplastics such as polyethylene and Teflon-FEP and for welding material such as silver chloride. The device consists of a resistance wire coiled around the external surface of a tubular insulating member with one of its two leads traversing the interior length of the insulating member. Each

lead is silver soldered to a connector strip which in turn is connected to a power source. This assembly is encased in a cylindrical quartz tube the forward end of which is formed or drawn to a narrow tubular shape to sheath the coiled resistance wire while the rearward portion serves as a handle and as a means for connecting the device to a power source. Write: NTIS.

PAT-APPL-6-134 008**Control of Parasitic Ticks/298****Produit contre les tiques/298**

Filed March 26, 1980, by the Department of Agriculture. An object of this invention is to provide new chemicals that are useful in the control of parasitic ticks through systemic activity. Another object is to provide chemicals that are lethal to ticks at a critical stage in their life cycle and to provide compounds that control ticks at concentrations

below those required for presently available chemicals. In general, according to this invention certain straight and branched-chain amines having chain lengths of from about 8 to 18 carbon atoms are found to be highly effective for controlling parasitic ticks. Write: NTIS.

PAT-APPL-6-135 850**Carbon Dioxide Analyzer for
Greenhouses/298****Doseur de dioxyde de carbone pour
serres/298**

Filed March 31, 1980, by the Department of Agriculture. A method and an apparatus for controlling the level of carbon dioxide in greenhouses are disclosed. In general, the method is an improvement over a known method of chemical analysis wherein a solvent is passed through a deionizing resin and mixed with a soluble substance such as car-

bon dioxide; the solution is transferred to a conductivity cell to measure electrical conductivity and then returned to the deionizing resin. The improvement of the invention is the compensation for changes in chemical solubility with temperature. Write: NTIS.

PAT-APPL-6-139 385

Preferential Epoxidation of Allyl Fatty Esters/298

Filed April 11, 1980, by the Department of Agriculture. Allyl esters from unsaturated triglyceride materials are preferentially epoxidized across the olefinic sites of unsatura-

Epoxydation préférentielle d'esters gras allyliques/298

tion by reaction in the presence of sodium bicarbonate. Write: NTIS.

PAT-APPL-6-140 911

Anti-Feedant for Boll Weevils/298

Filed April 16, 1980, by the Department of Agriculture. This invention relates to a boll weevil feeding deterrent, to a method of treating cotton therewith, and to a method of obtaining a boll weevil feeding deterrent. A boll weevil feed-

Produit empêchant l'anthonome du coton de se nourrir/298

ing deterrent is a material which, when applied to cotton, deters the attack of the boll weevil upon the cotton. Write: NTIS.

PAT-APPL-6-015 256

Solar Tracking Apparatus/298

Filed February 26, 1979, by the Department of Energy. The invention relates to a solar tracking device which tracks the position of the sun using paired, partially-shaded

Appareil de poursuite solaire/298

photocells. Auxilliary photocells are used for initial acquisition of the sun and for the suppression of false tracking when the sun is obscured by clouds. Write: DOE.

PAT-APPL-6-015 257

Reactor and Method for Hydrocracking Carbonaceous Material/298

Filed February 26, 1979, by the Department of Energy. Solid, carbonaceous material is cracked in the presence of hydrogen or other reducing gas to provide aliphatic and aromatic hydrocarbons of lower molecular weight for gaseous and liquid fuels. The carbonaceous material, such as coal, is entrained as finely divided particles in a flow of reducing gas and preheated to near the decomposition temperature of the high molecular weight polymers. Within the reactor, small quantities of oxygen containing gas are injected at a plurality of discrete points to burn corre-

Réacteur et méthode pour l'hydrocraquage de substances carbonées/298

sponding amounts of the hydrogen or other fuel and elevate the mixture to high temperatures sufficient to decompose the high molecular weight, carbonaceous solids. Turbulent mixing at each injection point rapidly quenches the material to a more moderate bulk temperature. Additional quenching after the final injection point can be performed by direct contact with quench gas or oil. The reactions are carried out in the presence of a hydrogen-containing reducing gas at moderate to high pressure which stabilizes the products. Write: DOE.

PAT-APPL-6-015 258

Process for Hydrocracking Carbonaceous Material to Provide Fuels or Chemical Feed Stock/298

Filed February 26, 1979, by the Department of Energy. A process is disclosed for hydrocracking coal or other carbonaceous material to produce various aromatic hydrocarbons including benzene, toluene, xylene, ethylbenzene, phenol and cresols in variable relative concentrations while maintaining a near constant maximum temperature. Variations in relative aromatic concentrations are achieved by changing the kinetic severity of the hydrocracking reaction by altering the temperature profile up to and quenching from the final hydrocracking temperature. The relative concentration of benzene to the alkyl and hydroxyl aromatics is increased by imposing increased kinetic severity

Procédé pour l'hydrocraquage de substances carbonées en vue de préparer des carburants et des matières premières pour l'industrie chimique/298

above that corresponding to constant heating rate followed by immediate quenching at about the same rate to below the temperature at which dehydroxylation and dealkylation reactions appreciably occur. Similarly phenols, cresols and xylenes are produced in enhanced concentrations by adjusting the temperature profile to provide a reduced kinetic severity relative to that employed when high benzene concentrations are desired. These variations in concentrations can be used to produce desired materials for chemical feed stocks or for fuels. Write: DOE.

PAT-APPL-6-017 299**Coal Liquefaction in an Inorganic-Organic Medium/298**

Filed March, 5, 1979, by the Department of Energy. Improved process for liquefaction of coal by contacting pulverized coal in an inorganic-organic medium solvent system containing a ZnCl sub 2 catalyst, a polar solvent with the structure RX where X is one of the elements O, N, S, or P, and R is hydrogen or a lower hydrocarbon radical; the

Liquéfaction du charbon dans un milieu inorganique-organique/298

solvent system can contain a hydrogen donor solvent (and must when RX is water) which is immiscible in the ZnCl sub 2 and is a hydroaromatic hydrocarbon selected from tetralin, dihydrophenanthrene, dihydroanthracene or a hydrogenated coal derived hydroaromatic hydrocarbon distillate fraction. Write: DOE.

PAT-APPL-6-025 629**Method of Preparing Porous, Rigid Ceramic Separators for an Electrochemical Cell/298**

Filed March 30, 1979, by the Department of Energy. Porous, rigid separators for electrochemical cells are prepared by first calcining particles of ceramic material at temperatures above about 1200 exp 0 C for a sufficient period of time to reduce the sinterability of the particles. A ceramic powder that has not been calcined is blended with the original powder to control the porosity of the completed separator. The ceramic blend is then pressed into a sheet

Méthode de préparation de séparateurs céramiques rigides et poreux pour piles électrochimiques/298

of the desired shape and sintered at a temperature somewhat lower than the calcination temperature. Separator sheets of about 1 to 2.5 mm thickness and 30 to 70% porosity can be prepared by this technique. Ceramics such as yttria, magnesium oxide, and magnesium-aluminum oxide have advantageously been used to form separators by this method. Write: DOE.

PAT-APPL-6-026 505**Metal-Doped Organic Foam and Method of Making Same/298**

Filed April 3, 1979, by the Department of Energy. Organic foams having a low density and very small cell size and method for producing same in either a metal-loaded or unloaded (nonmetal loaded) form are described. Metal-doped foams are produced by soaking a polymer gel in an aqueous solution of desired metal salt, soaking the gel successively in a solvent series of decreasing polarity to remove water from the gel and replace it with a solvent of lower polarity with each successive solvent in the series

Mousse organique à dopage métallique et méthode de préparation/298

being miscible with the solvents on each side and being saturated with the desired metal salt, and removing the last of the solvents from the gel to produce the desired metal-doped foam having desired density cell size, and metal loading. The unloaded or metal-doped foams can be utilized in a variety of applications requiring low density, small cell size foam. For example, rubidium-doped foam made in accordance with the invention has utility in special applications, such as in x-ray lasers. Write: DOE.

PAT-APPL-6-029 963**Process for Hydrocracking Carbonaceous Material in Liquid Carrier/298**

Filed April 13, 1979, by the Department of Energy. Solid carbonaceous material is hydrocracked to provide aliphatic and aromatic hydrocarbons for use as gaseous and liquid fuels or chemical feed stock. Particulate carbonaceous material such as coal in slurry with recycled product oil is preheated in liquid state to a temperature of 600 to 1200 exp 0 F in the presence of hydrogen gas. The product oil acts as a sorbing agent for the agglomerating bitumens to minimize caking within the process. In the hydrocracking reactor, the slurry of oil and carbonaceous particles is

Procédé d'hydrocraquage de produits carbonés dans un véhicule liquide/298

heated within a tubular passageway to vaporize the oil and form a gas-solid mixture which is further heated to a hydrolysis temperature in excess of 1200 exp 0 F. The gas-solid mixture is quenched by contact with additional oil to condense normally liquid hydrocarbons for separation from the gases. A fraction of the hydrocarbon liquid product is recycled for quenching and slurring with the carbonaceous feed. Hydrogen is recovered from the gas for recycle and additional hydrogen is produced by gasification of residual char. Write: DOE.

PAT-APPL-6-039 986**Novel Fischer-Tropsch Catalysts/298**

Price per copy from NTIS: PC U.S. \$6.00/MF U.S. \$3.50, filed May 17, 1979, by the Department of Energy. Novel compounds are described which are used as improved

Nouveaux catalyseurs Fischer-Tropsch/298

Fischer-Tropsch catalysts particularly for the conversion of CO + H sub 2 to gaseous and liquid hydrocarbons at milder conditions than with prior catalysts. Write: DOE.

PAT-APPL-6-052 716

Trace Desulfurization/298

Filed June 27, 1979, by the Department of Energy. A method for reducing a trace concentration of sulfur-containing compounds in a gas stream from about one part in 10×10^4 to about one part in 10×10^7 . The method includes the steps of irradiating the gas stream with an energy source which has a central emission frequency chosen to substantially match a wavelength of energy absorption of the sulfur-containing compounds and of subsequently con-

Élimination du soufre à l'état de traces/298

tacting the gas stream with a reactive surface which includes a reactant selected from elemental metals and metal oxides so that metallic sulfur-containing compounds are formed. The reduction in concentration allows the gas stream to be processed in certain reactions having catalysts which would otherwise be poisoned by the sulfur-containing compounds. Write: DOE.

PAT-APPL-6-147 700

Adjustable High Emittance Gap Filler/298

Filed May 7, 1980, by NASA. A flexible, adjustable refractory filler is disclosed for filling gaps between ceramic tiles forming the heat shield of a space shuttle vehicle, to protect its aluminum skin during atmospheric re-entry. The easily installed and replaced filler consists essentially of a strip of ceramic cloth coated, at least along both its longitudinal edges with a room temperature vulcanizable silicone rubber compound with a high emittance colored pigment. The filler may have one or more layers as the gap width requires. Preferred materials are basket-weave aluminoborosilicate cloth, and a rubber compounded with

Remplisseur à grande émittance/298

silicon tetraboride as the emittance agent and finely divided borosilicate glass containing about 7.5% B₂O₃ as highly temperature binder. The filler cloth strip or tape is cut to proper width and length, inserted into the gap, and fastened with previously applied drops of silicone rubber adhesive. Write: NASA, Ames Research Center, Mail Code: 200-11A, Moffett Field, California 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.

PAT-APPL-6-145 207

Potential Heat Exchange Fluids for Use in Sulfuric Acid Vaporizers/298

Filed April 30, 1980, by NASA. The testing of several candidate perfluorocarbon liquids for the direct fluid contact heat exchange with H₂SO₄ at about 330 C prior to high temperature decomposition in the oxygen release step of several thermochemical cycles for splitting water into hydrogen and oxygen is described. Among the several liquids tested, only perfluoropropylene oxide polymers having a degree of polymerization from about 10 to 60 were

Fluides échangeurs de chaleur susceptibles d'être utilisés dans les vaporisateurs d'acide sulfurique/298

chemically stable and had low miscibility and vapor pressure when tested with sulfuric acid at temperatures from 300 C to 400 C. The thermochemical cycle is outlined. Write: Patent Counsel, NASA Resident Legal Office, Mail Code: 180-601, 4800 Oak Grove Drive, Pasadena, California 91103 and send a copy of your initial correspondence to Canadian Consulate General, 510 West Sixth Street, Los Angeles, California 90014.

PAT-APPL-6-145 282

Constant Magnification Optical Tracking System/298

Filed April 30, 1980, by NASA. A constant magnification optical tracking system is disclosed wherein a traveling objective lens maintains a fixed relationship to an object to be optically tracked. The objective lens is chosen to provide a collimated light beam oriented in the direction of travel of the moving object. A reflective surface is attached to the traveling objective lens for reflecting an image of the moving object to the lens. The moving object is maintained at the focal point of the traveling objective lens. A motor and control means is provided for maintaining the traveling

Système de poursuite optique à grossissement constant/298

objective lens in a fixed relationship relative to a free falling object, thereby keeping said object at the focal point and centered on the axis of the traveling objective lens throughout its entire free fall path. Write: Patent Counsel, NSA Resident Legal Office, Mail Code: 180-601, 4800 Oak Grove Drive, Pasadena, California 91103 and send a copy of your initial correspondence to Canadian Consulate General, 510 West Sixth Street, Los Angeles, California 90014.

PAT-APPL-6-086 213

Diamond Supported Helix Assembly and Method/298

Filed October 18, 1979, by the Department of the Navy. A slow wave guiding structure such as a helix delay line for electron interaction devices of the traveling wave type having diamond heat sink supports for substantial enhancement of power levels of operation is provided. The diamond supported helix structures are maintained in

Ligne hélicoïdale à supports diamantés et méthode d'utilisation/298

good thermal contact by pressure only in lieu of the diamonds being bonded to metallic members. The invention is applicable to numerous slow wave structures including ladder, ring-bar, meander, as well as interdigital types. Write: Department of the Navy.

PAT-APPL-6-116 351

A New Method for Preparing Pentanitroaniline and Triaminotrinitrobenzenes from Trinitrotoluene/298

Filed January 28, 1980, by the Department of the Navy. Trinitrotoluene is selectively reduced by reaction with H₂S in p-dioxane to produce 4-amino-2,6-dinitrotoluene. This latter compound is then nitrated with HNO₃ in H₂SO₄ to

Nouvelle méthode de préparation de la pentanitroaniline et de triaminotrinitrobenzènes à partir de trinitrotoluène/298

produce pentanitroaniline which is, in turn, reacted with NH₃ in benzene, methylene chloride or another suitable solvent to produce triaminotrinitrobenzene (TATB). TATB is useful as an explosive. Write: Department of the Navy.

PAT-APPL-6-121 550

Transducer Array Release and Pressure Compensation System/298

Filed February 14, 1980, by the Department of the Navy. A transducer array release and pressure compensation system for releasing a nose cone assembly from a cylindrical housing so as to deploy a plurality of transducer elements and pressure compensate the transducer elements. When hydrostatic pressure is applied to a bladder located within the nose cone assembly, the bladder pulls a release cable

Système de déploiement de transducteurs et de compensation de la pression/298

so as to release a split ring which secures the nose cone assembly to the cylindrical housing. The application of hydrostatic pressure to the bladder forces air from the nose cone assembly through a compensator airline to the transducer elements so as to pressure compensate the transducer elements. Write: Department of the Navy.

PAT-APPL-6-125 004

Seal for Situ Replacement on a Rotatable Shaft/298

Filed February 27, 1980, by the Department of the Navy. Liquid seal for encircling a rotatable shaft and defining improved sealing contact with the surface thereof. The seal is formed from a continuous length of material in the shape of a resilient closed wound helical coil having an open core. For assembling the seal on a shaft, one end of the coiled strip material is temporarily spread from the other

Joint pour arbre tournant installable in situ/298

turns and progressively threaded astride the shaft until the coil completely encircles the shaft. Thereafter, the resilient seal is allowed to assume its normal closed helical formation with lips on its inner surface facing the helix core for sealing contact with the shaft. Write: Department of the Navy.

PAT-APPL-6-130 804

A Simplified Multilayer Circuit Board/298

Filed March 17, 1980, by the Department of the Navy. A multilayer printed circuit board is disclosed having appropriate ground and voltage planes. The multi-layer printed circuit board includes a mounting plane, a plurality of dielectric sheets stacked upon the mounting plane, a plurality of conductive sheets positioned between adjacent dielectric sheets, and a plurality of rectangular shaped apertures passing through the multilayer printed circuit

Carte imprimée multicouche simplifiée/298

board. Each rectangular shaped aperture of the multilayer printed circuit board has a plurality of voltage connector terminals. Electrical connection from one of the conductive sheets to the appropriate voltage connector terminal is provided by a conductive disc which passes through a hole located within the multilayer printed circuit board. Write: Department of the Navy.

PAT-APPL-6-133 753

Electrical Connector Receptacle Assembly/298

Filed March 25, 1980, by the Department of the Navy. A fluid tight, detachable underwater electrical connector assembly having a self-locking capability for use in connecting underwater hydrophones. The connector assembly comprises a female plug or receptacle housing, at least one electrical conductor, and a 'feed-thru' tube leading

Connecteur électrique à réceptacle éfanche/298

from the receptacle housing for isolating the electrical conductor from a fluid environment. The receptacle housing is clear or substantially transparent thereby allowing visual inspection for leaks. Write: Department of the Navy.

PAT-APPL-6-134 833

Portable Personnel Platform and Ladder/298

Filed March 8, 1980, by the Department of the Navy. A portable personnel platform and ladder for use with elevated piers and floating decks has one end of a compression framework pivotally attached to a rope ladder supporting platform which extends over the pier's edge; adjustable wire backstays which provide cantilever strength connect the opposite end of the compression framework to the upper end of railings on the ladder supporting platform.

Plate-forme et échelle individuelles portables/298

The opposite end of the compression framework is adapted to have weight added thereto or to be secured to the pier deck. The length of the compression framework is such that considerable leverage is provided to support the weight of several people climbing on the rope ladder attached to the supporting platform while using much less counter-balancing force on the opposite end of the compression framework. Write: Department of the Navy.

PAT-APPL-6-135 563

Bonding Agent for HMX (Cyclotetromethylenetetranitramine)/298

Filed March 31, 1980, by the Department of the Navy. The present invention relates to an improved propellant or explosive and method for making it having increased energy yet having increased toughness and hazard properties. More specifically, an HMX or RDX material is coated with a nitrocellulose, poly-hydroxyethyl acrylate or poly-

Agent de fixation de l'HMX (cyclotétraméthylènetétranitramine)/298

hydroxymethyl acrylate for bonding hydroxyl groups that subsequently allows reaction with amine silane/s or a polymer. Further coating of the product is then carried out with a primary hydroxyl forming material and then curing the product in the presence of an isocyanate. Write: Department of the Navy.

PAT-APPL-6-141 703

Apparatus and Method for Radio Channel Selection/298

Price per copy from NTIS: PC U.S. \$6.00/MF U.S. \$3.50, filed April 18, 1980, by the Department of the Navy. An improved apparatus and method for selecting a carrier frequency channel between two radios are disclosed wherein one radio transmits a cyclic test signal sequentially on a set of frequencies for a period of time at each frequency sufficient to allow a second radio to sweep through the entire set while pausing at each frequency for a period of time sufficient to receive a cycle of the test signal. The second radio utilizes the detected test signal to evaluate

Appareil et méthode de sélection de voies radio/298

the transmission quality of the carrier frequency channel upon which it was received. After the second radio recognizes the test signal on a carrier frequency for a second time, it ceases evaluation and transmits an answer signal upon the carrier frequency with the highest transmission quality. The first radio is enabled to detect the answer signal by initiating reception at the end of each test signal transmission and sweeping through the entire set of frequencies at the rate of sweep of the second radio. Write: Department of the Navy.

PAT-APPL-6-142 281

Personnel Chain Climber/298

Filed April 21, 1980, by the Department of the Navy. An apparatus for use as a chain climbing device or a chain ratcheting device includes a pair of spring-closed opposing cams disposed in a rigid structure which supports a pair of cam pins, each of which extends through an elongated aperture in one of the cams. The weight of a person using the chain climbing device is transferred from a pair of cam stops attached to the rigid structure to the cams to the

Chaîne de montage individuelle/298

chain. When the device is used for chain ratcheting the weight of the chain is transferred to the cams to the stops to the rigid structure. The shape of the cams and the elongated apertures enable the cams to rotate about and slide upward or downward on the cam pins to selectively allow upward or downward relative motion between the chain and the apparatus or lock the chain and the apparatus in a fixed relationship. Write: Department of the Navy.

PAT-APPL-6-143 079

**Automatic Temperature Control System
for Diver Heating System/298**

**Système de régulation automatique de
température pour appareil de
réchauffement de plongée/298**

Price per copy from NTIS: PC U.S. \$6.00/MF U.S. \$3.50, filed April 4, 1980, by the Department of the Navy. This invention relates to a diver heating system of the type in which a fluid being circulated in the circulation passage of the diver's clothing is heated by the controlled combustion of a reducing metal in an oxygen atmosphere, a temperature control system in which a gas flow control valve controls the oxygen flow to the reaction to automatically maintain a preset temperature of the circulating fluid and a gas shut-off valve serves as a backup to quickly shut-off the

oxygen flow if the temperature of the circulating fluid exceeds a preset valve. In both the gas flow control valve and the gas shut-off valve, the heated water is fed through a heat exchanger where it is in thermal contact with a thermofluid so that heat is transferred between the two fluids. The change in volume of the thermofluid with temperature is coupled to a motion bellows which operates to control the flow of oxygen through an orifice. Write: Department of the Navy.

PAT-APPL-6-954 058

**Improved Method or Infrared Laser
Soldering/298**

**Méthode améliorée de soudage au laser
infrarouge/298**

Filed October 23, 1979, by the Department of the Navy. A method and apparatus for attaching miniaturized chip components to substrates is provided. The output of a 1.06 micron wavelength laser is apertured or attenuated and the attenuated energy is monitored before passing through

a cylinder lens which focuses and directs the energy to the intersection of the chip component and the substrate pad so that heat travel in the material is limited and soldering of narrow capacitor or component widths is permitted. Write: Department of the Navy.

PAT-APPL-6-158 907

**Hand-Held Railroad Data Acquisition
System/298**

**Système d'acquisition de données
ferroviaires à main/298**

Filed June 12, 1980, by the Department of Transportation. The invention is a data acquisition system including a condition responsive sensor for producing an analog signal indicative of a given variable condition, a delta modulator circuit connected to receive and convert the analog signal into a modulated pulse train indicative of the given condition, an encoder circuit connected to receive and convert

the modulated pulse train into an audio output signal, and a recorder connected to receive and record the audio output signal. The encoder produces Harvard phase coding of the modulated pulse train and produces an audio output signal in a range between 1000 and 3000 Bauds that is compatible with cassette tape recorders. Write: NTIS.

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Bibliography

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Bibliographie

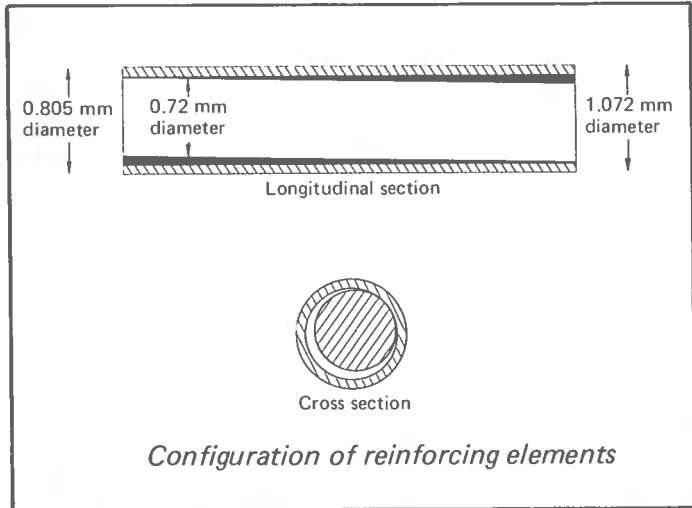
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Wall and Panelling System (See page 4). ▲
 Dispositif d'assemblage de murs et de plafonds
 (Voir page 4).

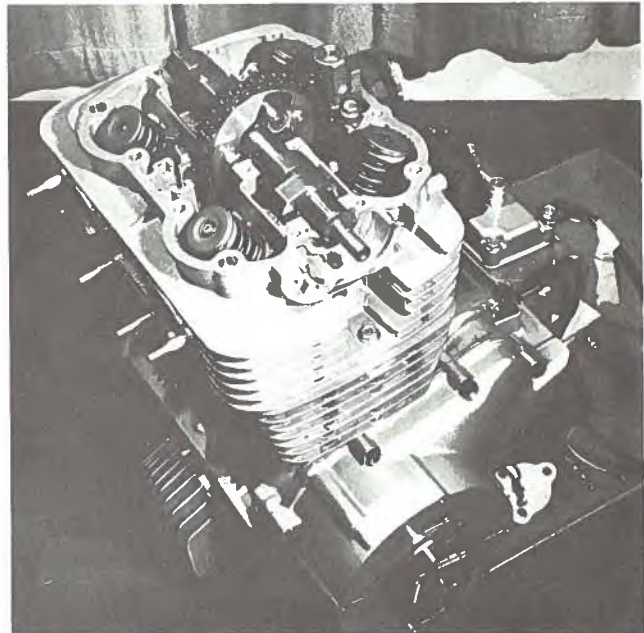
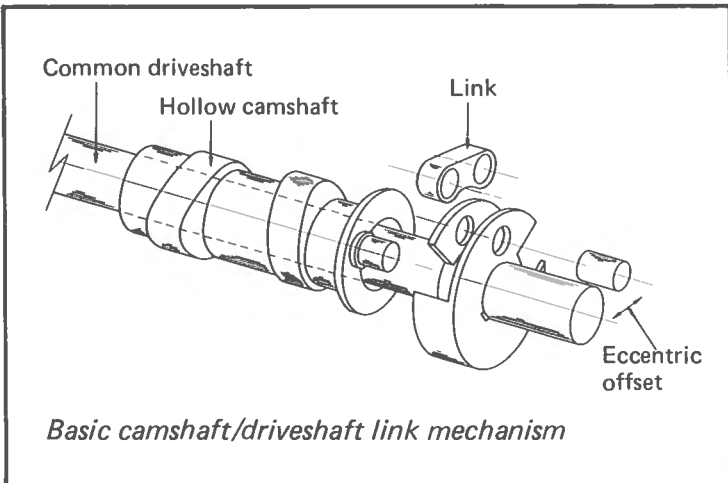


Space Frame Structures (See page 3). ▲
 Structures spatiales (Voir page 3).

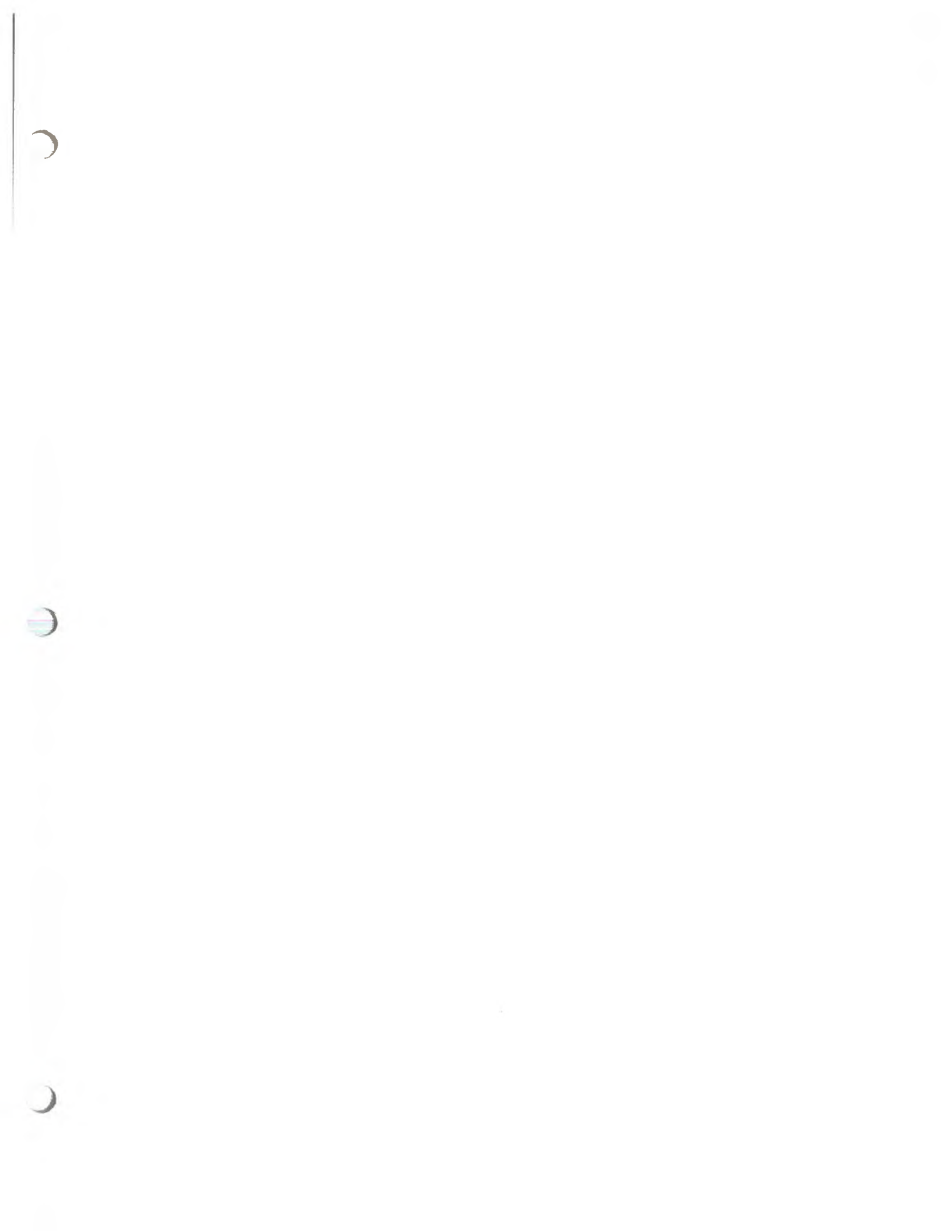


Damage — Tolerant Reinforced Metal Structures (See page 7). ▶
 Éléments structuraux métalliques à résistance améliorée au bris (Voir page 7).

Variable Valve — Timing Camshaft (See page 5). ▶
 Arbre à cames — Calage variable de la distribution ▼
 (Voir page 5).




Prototype twin-cylinder motorcycle engine



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