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WORLD INTELLECTUAL PROPERTY ORGANIZATION
UNITED INTERNATIONAL BUREAUX FOR THE PROTECTION OF INTELLECTUAL PROPERTY
GENEVA

PATENT COOPERATION TREATY

INTERIM COMMITTEE FOR TECHNICAL COOPERATION

STANDING SUBCOMMITTEE

Third Session, Geneva, October 2 to 5, 1972

MINIMUM DOCUMENTATION: ABSTRACTING SERVICES FOR PATENT DOCUMENTS

Report by the International Bureau

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Annexes

Background Information

1. At the first session of the Standing Subcommittee of the PCT Interim Committee for Technical Cooperation (hereinafter referred to as "the Standing Subcommittee"), the International Bureau reported the first results of its survey on Abstracting and Translation Services for Patent Documents,[1] in connection with the PCT Minimum Documentation (see document PCT/TCO/SS/I/4 of November 11, 1971).

2. The present document is a progress report dealing only with abstracting services, the translation services being reported in a separate document (PCT/TCO/SS/III/6) since the data on this subject alone are rather voluminous. What is being reported on here are the results of a continuation of the survey carried out among abstracting services by means of a questionnaire which was approved with certain additions at the first session of the Standing Subcommittee (see paragraphs 33 to 35 of the Report of that session, document PCT/TCO/SS/I/17). This document also contains at the end two revised annexes of document PCT/TCO/SS/I/4, incorporating the changes suggested during the first session of the Standing Subcommittee.

3. It is recalled that besides the task of the identification of existing patent abstracting services, the volume of documents covered and the possible growth of that volume, the International Bureau was also given an assignment to study the possibilities of coordination and cooperation among the different services as well as the possibilities of using such services by prospective Authorities (see document PCT/TCO/I/6, page 9, of February 25, 1971). The study will be undertaken once the present survey is completed, i.e. the existing services likely to be of direct usefulness to the prospective Authorities are identified.

Survey among abstracting services

4. The survey was carried out by means of the circular letter and questionnaire shown in Annex I. About 140[2] abstracting services were approached and so far about half of them have answered. From among all the answers received only 35 were usable in the sense that they not only contained a positive answer, as far as patent coverage was concerned, but they covered also a minimum of 15 patent abstracts per year.

5. The usable answers were filled into a standard sheet in a consistent way and they are reproduced in Annex IIA. Opposite each page of Annex IIA a copy of a sample page of the periodical published by the abstracting service in question is reproduced. The sample pages were chosen from those on which patent abstracts occurred. The collection of sample pages represents Annex IIB.

6. The sample issues of the periodicals will be laid open to inspection by the members of the Standing Subcommittee at the occasion of the next session.

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[1] "Patent documents" means patents, inventors' certificates, utility certificates, their respective published applications and like documents.

[2] The list of 96 abstracting services received from the US delegation contained only about 40 new names in addition to those already identified by the International Bureau.

7. When reading Annex IIA, the following should be borne in mind:

(i) The top line of each page indicates in capitals the name of the periodical. Underlined is the meaningful word used as a criteria for arranging the titles according to an alphabetical order of technologies. Where no meaningful word as to the technology involved is indicated in the title of the periodical itself, this word was added by the International Bureau in parentheses. Next to titles not in English there is always a corresponding English title.

(ii) The two or three lines under the title indicate the address of the publisher.

(iii) The texts following in capitals the numbers 1 to 18 represent the shortened version of the questions of same number in the distributed questionnaire.

(iv) As to question 1, the countries the documents of which are covered by the service were indicated by the ICIREPAT two-letter country code. A copy of that code is annexed for ready reference as Annex III.

(v) As to questions 2, 3 and 4, the indications are self-explanatory and no comment is needed.

(vi) As to question 5, the bibliographic data is given in the same sequence as it appears in the periodical in question. It should be understood as including also whatever data can be deducted even when not explicitly mentioned, e.g. if the abstracting service covers only US documents then it is clear that patents are the kind of document, though the indications given may read only US 3,423,200, for example.

(vii) As to question 6, (classification symbols) mere identification of the number of the abstract, the issue, year etc., were not taken as meaning any classification at all.

(viii) The answers to questions 7 to 18 speak for themselves.

Evaluation of the survey results

8. To allow an overall view of some of the main characteristics of the abstracting services being reported on, a table was prepared listing the services in decreasing order of the number of abstracts they publish per year. This table is shown as Annex IV. In the table the columns from left to right indicate:

1 - the serial number of the abstracting service as per Annex IIA

2 - a catchword title of the abstracting service

3 - the language of publication of the abstract

4 - the number of abstracts per year

5 - whether the abstracts are based on the full texts (FT), or on abstracts (A) or on the claims (Cl) of the patent documents

6 - the average number of words per abstract

7 - the number of countries covered.

9. The first observation that comes up when examining the table in Annex IV is that the Soviet service "Referativnyi Zhurnal" with 150,000 abstracts of original inventions from all countries and covering all fields of technology is the largest service by far.

10. Since it is published in Russian, it was attempted to determine whether there are translations into other languages, which would be more accessible to examiners in the prospective Authorities other than the Soviet Office. So far

the results indicated only the existence of two cover-to-cover translations of the total of 50 patent-related series of "Referativnyi Zhurnal", each one covering certain technological fields, and one English edition published by the Russian service itself. These three English versions are:

(i) Automatic Control - US$ 145/year
(translation of "Avtomatika, Telemekhanika, Vychislitelnaya Technika")

published by Faraday Press Inc.
84 5th Avenue, New York, N.Y. 10011, USA

(ii) Cybernetics Abstracts - US$ 180/year
(translation of "kibernetika")

published by Editor Morton Nadler
Scientific Information Consultants Ltd.
661 Finchley Road, London NW2 2HN, England

(iii) Informatics

published by VINITI, the publisher of Referativnyi Zhurnal, itself.

11. Since the number of abstracts published by the Referativnyi Zhurnal series is three times as large as the sum of the abstracts published by the other 34 abstracting services being reported on at this time, some comparisons will be presented considering these 34 services, to establish certain facts of their relations inside that group alone.

12. Examining the table in Annex IV, it is seen that the 10 services that immediately follow Referativnyi Zhurnal, represent 91% (i.e. 41,877 abstracts) of the sum of 34 abstracting services (i.e. 46,116 abstracts). The first ten of the thirty-four are services which publish yearly 1,000 or more abstracts each, in round numbers; the remaining 24 services, the largest one of which published only 600 abstracts in 1970, include on the one hand some very specialized technologies but also cover very often only one country, which accounts for their more reduced numbers of patent abstracts.

13. In the 10 largest above-mentioned abstracting services--without Referativnyi Zhurnal--the following country coverage in times of occurrence in absolute numbers and in percentages was determined:

		out of 10	=	100%
GB	-	10	=	100%
US	-	10	=	100%
DT	-	7	=	70%
FR	-	7	=	70%
CA	-	6	=	60%
NL	-	6	=	60%
CH	-	6	=	60%
SU	-	5	=	50%
BE	-	4	=	40%
DL	-	4	=	40%
JA	-	4	=	40%
OE	-	4	=	40%
SW	-	3	=	30%
others	-	2 or less	=	20% or less

14. In the 35 services including the Referativnyi Zhurnal, the country coverage in absolute numbers and in percentages of occurrence was as follows:

		out of 35	=	100%
US	-	30	=	86%
GB	-	28	=	80%
DT	-	21	=	60%
FR	-	21	=	60%
NL	-	16	=	46%
CA	-	14	=	40%
CH	-	12	=	34%
JA	-	12	=	34%
OE	-	12	=	34%
SU	-	12	=	34%
BE	-	11	=	31%
DL	-	11	=	31%
SW	-	9	=	26%
others	-	less than 7	=	20%

Note - where numbers were equal in paragraphs 13 and 14 above, countries were ordered alphabetically according to their code letters.

15. In respect of the source from which the abstracts are prepared, it is interesting to note that out of 35 services, 20 use the full text of the patent, particularly the biggest of all services, Referativnyi Zhurnal. Not counting the 150,000 abstracts of this service, the other 19 total 11,270 abstracts per year, or 24.44% of the total abstracts of the 34 services (46,116).

16. Using full text and/or an abstract (and in one case sometimes also claims only, if nothing else is available) for their source material, there are 8 services totalling 17,502 abstracts per year, or 37.95% of the total abstracts of the 34 services (46,116).

17. Using exclusively abstracts as their source material for new abstracts, or a reproduction of the same abstracts, there are 6 services totalling 17,228 abstracts per year, or 37.36% of the total abstracts of the 34 services (46,116).

18. Finally, there is one service that uses only claims: 116 abstracts in 1970 or 0.25% of the total.

19. As to technological fields covered, again with abstraction of the Referativnyi Zhurnal which covers all fields, among the other 34 services it is seen that the range goes from extremely specialized ones, like Liquid Chromatography, to very broad ones like the RAPRA Abstracts, on Rubber and Plastics. None, however, covers all technological fields according to any one of the eight International Patent Classification sections A-H. This indicates that to arrive at full coverage of all technological fields the number of abstracting services--existing or to be created--that would be needed --apart from Referativnyi Zhurnal--would probably be somewhere between 8 (number of sections of the International Patent Classification) and 115 (number of classes of the International Patent Classification) if class coverage is the minimum aim. The other solution would of course be an English counterpart of Referativnyi Zhurnal with complete coverage of all fields and countries.

20. The average length of the abstracts in number of words of text is for the Referativnyi Zhurnal 75 words, for the next 10 largest ones 100 words (the minimum being 50 words and the maximum being 250 words), and for the 34 services besides the Referativnyi Zhurnal 112 words (with a minimum of 25 and a maximum of 300 words).

21. In all 35 abstracting services the following bibliographic data occurred in absolute numbers and in percentage of occurrence:

		out of 35 = 100%	
1.	Title	35 = 100%	
2.	Country of publication	35 = 100%	*
3.	Kind of document	35 = 100%	*
4.	Document number	35 = 100%	*
5.	Patentee or assignee	29 = 83%	
6.	Inventor or author	22 = 63%	
7.	Applicant (Either 5), or 6) or 7)	7 = 20% 35 = 100%)	
8.	Date of document	20 = 57%	*
9.	Priority application date	11 = 31%	*
10.	Application date (Either 8) or 9)	8 = 23% 14 = 40%)	*
11.	Priority country	10 = 29%	*
12.	Priority application number	8 = 23%	*
13.	Address of patentee or assignee	5 = 14%	
14.	Country of origin of patent (Either 13) or 14)	5 = 14% 10 = 29%)	
15.	Language of original document	4 = 11%	
16.	Source of abstract	4 = 11%	
17.	Application number	2 = 6%	*
18.	Patent family members	2 = 6%	
19.	Date of German Auslegeschrift	1 = 3%	
20.	Address of inventor	1 = 3%	
21.	References	1 = 3%	
22.	IPC symbol	1 = 3%	*
23.	National classification symbol	1 = 3%	

The * (asterisk) indicates the 10 minimum bibliographic data which the International Patent Documentation Center in Vienna will carry in its computer memory and which is intended to be covered by all patent documents from all countries in the future.

22. As already seen from the paragraph above, IPC symbol and national patent classification symbol occur only once in all the 35 abstracting services. It so happens that both these indications are found in the Referativnyi Zhurnal. Among the other 34 abstracting services, 7 services use an own classification symbol on their abstracts; 3 services use the Universal Decimal Classification symbol; 24 services use no classification symbol at all.

23. As to chemical formulae, 17 services out of the total 35 indicate them either always or sometimes.

24. Drawings, diagrams or the like are only indicated by 7 of the 35 services, but mostly only in some cases.

25. As to their physical characteristics, all 35 abstracting services are published at least as a periodical in a size that varies between A5 and A4, broadly speaking, printed on both sides of the paper.

Three abstracting services also offer magnetic tapes, one service offers also 16mm microfilm in rolls, one service offers microfiche and one service still offers filing cards. The latter practice has, however, been recently discontinued by another service.

26. In respect of the arrangement of the abstracts, the following was established for all 35 abstracting services:

28 services use some form or other of technological field grouping or subject classification or grouping;

3 services use their own classification system;

1 service uses UDC;

1 service uses no special arangement at all;

1 service follows the serial number of the patents, since it covers one country only;

1 service arranges the GB patents by number, and the patents of other countries by alphabetical order of their titles.

27. The number of patent abstracts published in 1970, or later if the service started only after that date, were already indicated in Annex IV and no further comment is deemed necessary here. For the years preceding 1970, the exact indication of the number of published abstracts of patent documents posed a problem to many services. Only the main indications are reported below:

	total patent abstracts up to 1970
1 - Referativnyi Zhurnal	1,300,000
2 - RAPRA - Abstracts	300,000
3 - Brevatome	125,000
4 - Photographic Abstracts	30,000
5 - World Paint Abstracts	15,000
6 - Hosiery Abstracts	12,000

28. Percentagewise there were two abstracting services which dealt exclusively with patents (Brevatome, and Paint and Resin Patents). For the rest, the participation of patent abstracts in the total number of abstracts published yearly varied between 2 - 3% and a maximum of 58%. The majority lies, however, below 50% and this is in line with the known situation in the documentation field.

29. Languagewise 33 of the 35 abstracting services are printed in English, one in Russian (Referativnyi Zhurnal) and one in German (Stärch). In addition, 4 of the 35 also print abstracts in French, 3 also in German, 2 also in Italian, 1 also in Spanish and 1 also in Dutch.

30. The publication delay of the abstracts after the patent documents are first published is widely variable starting as low as up to one week for patent documents of the country in which the abstracting service is published, and ending with 156 weeks in the extreme case of services that scan the world literature for secondary publications to prepare their abstracts thereby incurring in a great delay.

Dividing all 35 abstracting services into 4 categories of delays, we find that there are:

5 services with delays from 0 - 12 weeks
26 " " " " 12 - 52 "
2 " " " " 52 - 104 "
1 service " " longer than 104 weeks

The delay is therefore usually from 3 months to 1 year after the publication of the original patent document.

31. Most abstracting services publish monthly periodicals. Out of 35 this is the case with 20 services. The larger services come out twice a month: 3 of the 35 services do that. One of the larger ones is published weekly: RAPRA - Abstracts. The smaller services are either bi-monthly (7 out of 35) or quarterly (4 out of 35).

Referativnyi Zhurnal, being a series of periodicals, is also a monthly publication.

32. As to magnetic tapes, microfilms and other formats of publication, the following can be said:

Tapes are very convenient for search purposes by means of classified terms out of a special thesaurus for each field. They might, however, require availability of the chronological order of published abstracts, when the tape itself does not contain but the terms. In these cases microfilms offer an economic way of acquisition of the abstract texts.

The microfilms are sometimes produced by the same service that prepares the abstracts and the magnetic tapes (as for Gas Chromatography Abstracts and Food Science and Technology Abstracts) and sometimes the microfilms, or microfiche collections are prepared by subcontractors (as for Nuclear Science Abstracts).

33. With the exception of the two services that deal exclusively with patent literature, 21 of the remaining 33 services publish their abstracts of patent literature together and mixed with those of non-patent literature. Twelve services publish their patent abstracts in the same issue of the periodicals in which they publish the non-patent literature abstracts, but they separate the former from the latter.

34. In respect of fees, the following was observed:

Four services were being distributed free from any payment. One such service--Commercial Fisheries, published by the US Department of Commerce--is, however, reviewing at present the list of receivers and will reduce the number of free copies, the remaining having to pay in future a subscription fee.

For periodicals:

13	services	had	subscription	fees	up to	US$	55.-
9	"	"	"	"between	US$	55.- and	US$ 100.-
6	"	"	"	" "	US$	100.- and	US$ 200.-
3	"	"	"	" above	US$	200.-	

For magnetic tapes:

1	service charges a basic fee of	US$ 800.- plus US$ 125.- p.a.
2	services charge p.a.	US$ 1,820.- and US$ 1,845.- respectively

For 16mm microfilms:

1 service charges	US$ 100.- per 2-year period

For microfiches:

1 service charges	US$ 10.40 p.a.

For filing cards:

1 service charges	US$ 220.- p.a.

(for the periodical the same service charges only US$ 62.- p.a.)

35. No service required an entry or membership fee, though some were entities that gave their members naturally more advantageous conditions, going as far as even free distribution of the abstracts' periodical.

36. In general there was no indication of marked interest in increasing the patent coverage in future.

37. The Standing Subcommittee is invited to examine and comment on Annexes I to VI.

Continuation of Survey and Study

38. From the results so far obtained, two main lines of action seem to be of major interest to the prospective International Searching and Preliminary Examination Authorities under the PCT:

1 - to try to identify further patent abstracting services, especially in fields not yet covered;

2 - to try to identify further cover-to-cover translations of the Russian periodical "Referativnyi Zhurnal."

39. The Standing Subcommittee is invited to make recommendations as to the orientation of the survey and the study of abstracting services.

[Annexes follow]

ORGANISATION MONDIALE DE LA PROPRIÉTÉ INTELLECTUELLE

Bureaux internationaux réunis pour la protection de la propriété intellectuelle (BIRPI)

WORLD INTELLECTUAL PROPERTY ORGANIZATION

United International Bureaux for the Protection of Intellectual Property (BIRPI)

Circular No. 1388
PCT 22

February 28, 1972

Gentlemen,

We are carrying out a survey on abstracts of patent documents likely to be of direct use to prospective International Searching and Preliminary Examining Authorities under the Patent Cooperation Treaty, signed in Washington on June 19, 1970, by 35 countries. The prospective Authorities are the national industrial property Offices of Austria, Brazil, Germany (Federal Republic), Japan, the Netherlands, the Soviet Union, Sweden, the United Kingdom and the United States of America, as well as the International Patent Institute in The Hague.

The survey should encompass, irrespective of geographical location, government-operated services, services offered for sale to the general public, and services which are private and restricted.

./. We would appreciate your cooperation in answering the annexed questionnaire and returning it, with a free copy of your most recent issue of published abstracts, at your earliest convenience but preferably not later than April 30, 1972.

Should your service deal only with microforms, a few representative specimens would fully meet our needs. Similarly, if you deal only with magnetic tape, a few representative photocopies of a normal printout, even in reduced format, would be entirely satisfactory.

Sincerely yours,

K. Pfanner
Senior Counsellor
Head of the
Industrial Property Division

Questionnaire to Abstracting Services Including But Not Exclusively Dealing With Patent Documents

Definition: For the purposes of this questionnaire, "patent documents" means patents, inventors' certificates (Soviet Union), utility certificates (France), published patent applications and like documents.

Name and address of service: (to be indicated above the answers to the questions below)

1. Which patent documents from what countries does your service abstract?

2. Are the abstracts of patent documents made on the basis of:

   (i) the full text of the original patent document?

   (ii) a text which is already an abstract or an abridgement of the patent document?

   (iii) the claim(s) appearing in the patent document?

3. As far as patent documents are concerned, which technological fields are covered by your service? (Please specify and, if possible, indicate also in terms of the classes of the International Patent Classification and/or other patent classification system used.)

4. What is the average length of each abstract of a patent document (without counting the bibliographic data)? (Please express the length in numbers of words.)

5. What bibliographic data does each abstract of a patent document contain?

6. Do the abstracts of patent documents contain any classification symbols? If so, what kind(s)?

7. Do the abstracts of patent documents contain, where relevant:

   (i) chemical formulae?

   (ii) drawings, diagrams or the like?

8. What are the physical characteristics of the abstracts (separate sheets for each abstract, abstracts printed in periodicals, printed on one side of the page or both sides of the page, size of the page, size of type, etc.)?

Annex to Circular No. 1388

9. What is the arrangement of and/or means of access to abstracts (chronological, sequencing, technological field grouping, classification grouping, company code grouping, etc.)?

10. How many abstracts of patent documents were published by your service:

(i) in 1970?

(ii) since the creation of your service?

11. What percentage of the total number of abstracts of your service is represented by patent abstracts?

12. In what language(s) are the abstracts of patent documents published?

13. How soon are the abstracts of patent documents published after the first publication of the patent documents of which they constitute the abstracts? (Please specify the shortest and longest periods, differentiating among the various countries if terms vary.)

14. What is the frequency of publication of your service?

15. Are abstracts of patent documents published separately from or together with abstracts of non-patent literature items?

16. What are the subscription fees of the different formats (see below) of your services (per year, per field, other possibilities)? Please distinguish between:

(i) paper copies (specify size),

(ii) microfilm, microfiche, other microform (specify),

(iii) magnetic tapes or other machine readable form (specify).

17. What is your fee structure, particularly as to the requirement of an entry or membership fee?

18. Is it expected that the coverage of your service will be increased in the near future as far as patent documents are concerned? If so, please specify.

ANSWERS TO QUESTIONNAIRE

For ready access to a certain technological field covered by the answers received, the technological fields were arranged according to the alphabetical order of the catchword found to be most pertinent. These catchwords, when present in the title of the service, were underlined; otherwise they are given in parentheses near the title, and are underlined.

The numbers in parentheses refer to the serial number of the services in their alphabetical order.

ALL FIELDS - Referativnyi Zhurnal (1)
ATOMIC - see Nuclear
CHROMATOGRAPHY - Gas Chromatography Literature Abstracts (2)
- Liquid Chromatography Literature Abstracts (3)
COPPER - Copper Abstracts (4)
DESALINATION - Desalination Abstracts (5)
FERTILIZERS - Fertilizer Abstracts (6)
FISHERY - Commercial Fisheries Abstracts (7)
FLUIDICS - Fluidics Feedback (8)
- Fluid Power Abstracts (9)
- Fluid Sealing Abstracts (10)
FOOD - BMFIRA - Abstracts from current scientific and technical literature (11)
- Food Science and Technology Abstracts (12)
GOLD - Gold Bulletin (13)
GRAPHICS - Graphic Arts Abstracts (14)
HOSIERY - Hosiery Abstracts (15)
MARINE - Marine Engineering and Shipbuilding Abstracts (16)
METAL FINISHING - Metal Finishing Abstracts (17)
NAVAL - see MARINE
NUCLEONICS - Atomic Patent Abstracts, same as La Propriété Industrielle Nucléaire, Brevatome (18)

- Nuclear Magnetic Resonance (19)
- Nuclear Science Abstracts (20)

ORGANOMETALLICS - Organometallic Compounds (21)

PAINT - Continental Paint and Resin News (22)
- Paint and Resin Patents (23)
- World Surface Coatings Abstracts (24)

PHOTOGRAPHY - Photographic Abstracts (25)

PLASTICS - see RUBBER

PLATINUM - Platinum Metals Review (26)

PLUTONIUM - Plutonium Documentation (27)

PROTEIN COLLOIDS - BFMIRA World Abstracts on Protein Colloids (28)

PUMPS - Pumps Abstracts (29)

RAPRA - see Rubber and Plastics

REFERATIVNYI ZHURNAL - Referativnyi Zhurnal, covering all technological fields (1)

RESEARCH - EURO-Abstracts (30)

RESINS - see PAINT

RUBBER AND PLASTICS - RAPRA Information Services (31)

SHIPBUILDING - see Marine Engineering

STARCH - Starch (32)

STEEL - Steel Castings Abstracts (33)

TEXTILE - World Textile Abstracts and Specialized Textile Information Service (34)

TOBACCO - Tobacco Abstracts (35)

1. REFERATIVNYI ZHURNAL (ALL FIELDS)(ABSTRACTING JOURNAL)

Institute of Scientific Information (VINITI)
Baltijskaya Ulitza, 14 - Moscow, A219 - USSR

1. PATENT DOCUMENTS ABSTRACTED: all countries

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: all fields

4. ABSTRACT LENGTH: 50-100 words

5. BIBLIOGRAPHIC DATA INCLUDED: national classification (USSR); title; country of publication; kind of document; national classification of document; Int. Cl. symbol; document number; application date; publication date; language

6. CLASSIFICATION SYMBOLS: UDC

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page A4, in two columns

9. ARRANGEMENT: subject grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: 150,000
UP TO 1970: 1,300,000 (since 1953)

11. PERCENTAGE OF PATENT ABSTRACTS: 16% average

12. LANGUAGE OF ABSTRACTS: Russian

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: average 8 months

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: US$ 1,500.00 approx. for all 50 abstracting services of patent related fields

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

REFERATIVNYI ZHURNAL, December 1971

Document Duplication and Small-Graphic-Art Printers

UDC 655.28.011.56

71.12.277. *Chemical Abstracts plans changeover to computer printing.*— «Chem. and Eng. News.», 1971, *49*, No. 27, 43. (In English).

It is reported that a part of the subject sections of Chemical Abstracts (USA) will be composed with the aid of electronic computers. A brief description is made of the information processing system in Chemical Abstracts and the contemplated ways of its development and improvement. S. Yu.

UDC 778.1

71.12.278. *Copying and duplication.*— Kopieren+Vervielfältigen. «BIT» (BRD), 1971, No. 7, 759—760. (In German).

Dutch company Océ has developed small offset machine, Model 2110, with single-button control. The following processes are automated in the machine: cleaning of the rider roller and the rollers of the inker system after replacing the ink tray by the tank with a solvent, adjustment of suction during paper feeding for printing speeds of 3,500 to 7,200 impressions per hour, etc. The company also produces different materials for making printing plates, from the hydrophilic paper plates for producing 100 impressions, to the aluminium foil ones for making 40,000 impressions inclusive. Information is also given about two new models of xerographic copiers: a copier from Remington providing for both a high-speed flow-type copying of sheet materials and a stop-and-repeat copying of books performed at a lowor speed, and the Royfax 1400 copier intended to copy books and stitched originals.

K. Chemena

MEANS FOR STORAGE, PRESERVATION, AND RESTORATION OF DOCUMENTS

UDC 002.6.002.5:651

71.12.279. *Office machinery.*— Einrichtung-Organisation. «Burghag. Z. Bürotechn. und Inform.», 1971, 74, No. 1313—1314, 588—589, 591—592. (In German).

West German company Hänel Büro-Systeme has developed an automatic card file accepting cards of all the DIN formats, punched cards, microfilms, etc. The drawers may be fixed or removable at the customer's option. Installation of an automatic retrieval device is possible as well. Eichner GmbH (FRG) has manufactured sets of planning boards and loggers. Board size is 440×800 mm. The planning boards (fixing, magnetic, perforated, and boards intended for recording) are designed for planning and registration, drawing statistical and production diagrams, etc. Circular and key-actuated loggers (format DIN A5, 161 mm or 210 mm wide) make the records of telephone numbers and names illustrative and bold due to many-coloured lines. N. Mal'tseva

UDC 651.84(088.8)

71.12.280. *Fan-shaped card file.*— Erne, Hansjörg. Automatisch auffächernde Fächerkartei. Swiss Patent, Cl. B 42 f 17/02, No. 508,487, filed May 19, 1970, published July 30, 1971. (In German).

The present invention pertains to a fan-shaped card file. Its basic element is a cassette inserted into a box of a large size. The cassette which may be lifted and lowered inside the box comprises a U-shape bottom and rigid side walls hinged with the bottom along some horizontal lines. The side walls are made of the pressboard or a synthetic material and folded in two in such a manner that their longer free parts are lowered inside the bottom of the cassette. When lifting the cassette inside the box, the side walls open outward and their extended parts compress the lower part of the card stack positioned between them. The cards automatically fan owing to their own thickening. It is pointed out, that in this case it is not obligatory that they should be folded in two. The thickenings may be either pasted to ordinary cards or formed by folding upward the tongues cut in the lower edges of the cards. One cassette may accommodate 30 to 50 cards.

A. Fridlyand

UDC 651.8(088.8)

71.12.281. *Card file.*— Stocker, Bruno. Swiss Patent, Cl. B 42 f 17/08, No. 508,488, filed May 30, 1969, published July 30, 1971. (In German).

The present invention relates to a card file featuring a number of drawers with limiting rods for perforated cards. The cards have holes not in the lower part, but in the left one just above the middle. The rod runs through these holes. By slightly pressing the lower left corner, any card may be swung through 180° until it rests upon a horizontal bar. In this case the card is removed from the stack and is placed in a position facilitating reading. The titles and names are printed at the upper and lower edges in such a manner that they may be read in both the original and working positions of the card. To speed up retrieval, the needed cards of the section may be fanned so that the titles are seen on all the cards and the desired card is easy to find. Such card files may be used for library catalogues, telephone directories, control sheets storages and for supervising clerical work. A. Fridlyand

UDC 002.6.002.5:651(088.8)

71.12.282. *Apparatus and method for updating information files.*— Schoonmaker, Edward B.; Seaberg, Leonard J. (Eastman Kodak Co.). US Patent, Cl. 156—502, (G03d 15/04), No. 3, 574, 036, filed May 2, 1967, published Apr. 6, 1971. (In English).

The present invention pertains to a device and method for updating a file including at least one strip having a portion for receiving an information-bearing chip. The device operates to move the portion of the strip to a predetermined location, to dispose a web of the information-bearing chips to the predetermined location, and to attach the information bearing chip to the strip. 2 refs. S. Yu.

UDC 002.6.002.5:651(088.8)

71.12.283. *Device for storing documents.*— Classeur. (Pageaut Daniel), French Patent, Cl. B 42 f 7/00, No. 2, 044, 340, filed May 29, 1969, published Feb. 19, 1971. (In French).

The present invention relates to a device for storing documents and featuring a box without a wall. The boxes are easy to be linked with one another to form a device for storing documents of the required volume. In this case the missing wall is substituted by the wall of the adjacent box. S. Yu.

UDC 002.6.002.5:651(088.8)

71.12.284. *Box for storing documents.*— Müller, Matthias. Sammler zum Abstellen von Aktenmappen, Heftern, losem Schriftgut und dergleichen. (Regis GmbH). Swiss Patent, Cl. A 47 b 63/00, B 42 f 17/08, No. 508, 379, filed July 24, 1970, published July 30, 1971. (In German).

The present invention relates to the construction of a box for storing sheet documents. It is open at the top and at the front. The tray has a limited forward travel and cannot fall out under gravity. The travel is limited by one or more stops which can be displaced in the guide slots. Several variants of positioning the stops on the bottom and side walls of the box are discussed. A. F.

UDC 002.6.002.5:651(088.8)

71.12.285. *Device for storing documents and cards.*— Christan, Andreas. Vorrichtung zur Aufbewahrung von Gegenständen wie Akten oder Karteikarten. (Art. Metal-Knoll Corp.). Swiss Patent, Cl. A 47 b 63/00,

2. GAS CHROMATOGRAPHY LITERATURE ABSTRACTS

Preston Technical Abstracts Co.
P.O. Box 312, Niles, Illinois 60648 - USA

1. PATENT DOCUMENTS ABSTRACTED: all countries, though primarily CA, GB, US

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: gas chromatography

4. ABSTRACT LENGTH: 100-300 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; applicant; assignee's name and address; country of publication; kind of document; document number; document date; language

6. CLASSIFICATION SYMBOLS: yes, own subject classification

7. CHEMICAL FORMULAE: yes
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size 20 x 26cm, elite type

9. ARRANGEMENT: alphabetical by author inside subject classification

10. PATENT ABSTRACTS PUBLISHED IN 1970: approx. 75
UP TO 1970: approx. 600

11. PERCENTAGE OF PATENT ABSTRACTS: 2-3%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 3 months - 1 year

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: periodical US$ 240.-/year
16mm microfilm US$ 100.-/2 years
tape, all references from 1952 through December of preceding year US$ 800.-
updating . . . . . US$ 125.-

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

GAS CHROMATOGRAPHY LITERATURE, January 1972

0142 1-72 No. 72-0142

A METHOD OF SAMPLING BY CONVENTIONAL SYRINGES FROM MODERATELY PRESSURIZED CLOSED SYSTEMS

J. Novak, J. Gelbicova Ruzickova, S. Wicar (Inst. Instrument. Anal. Chem., Czechoslovakian Acad. Sci., Brno, Czechoslovakia)

J. Chromatog. 60, No. 1: 127-30 (Aug. 5, 1971)

This paper describes a very simple procedure that permits the use of conventional syringes for taking representative liq. or gaseous samples from moderately pressurized containers and injecting them into the chromatograph (gas or liquid).

91-83b

0143 1-72 No. 72-0143

GAS PHASE REACTION OF ETHYLENEDIAMINE AND ETHYLENEGLYCOL IN THE REACTOR PACKED WITH ALUMINA CATALYST

Jutaro Okada and Koichi Nakano (Fac. Pharm. Sci., Kyoto Univ., Japan)

Yakugaku Zasshi 91, No. 3: 416-21 (March 1971) (In Japanese)

Reactions between ethylenediamine and ethyleneglycol in a reactor packed with alumina catalyst were studied. The reaction prods. were analyzed by GC.

Instrument: GCG-550T
Detector: FID
Col. L/d: 2 m
Stat. ph./concn.: 5% PEG 9000
Support/mesh size: 80-100 mesh Chromosorb W
Oper. temp.: 80°-120°C; Programmed: at a rate of 6°/min
Retention data: Chromatograms: p. 418
Compds. sepd.: Pyrazine, methyl pyrazine, ethyl pyrazine and 2-methyl-5-ethyl-pyridine

89-60-55a

0144 1-72 No. 72-0144

BASELINE COMPENSATION FOR CHROMATOGRAPHIC ANALYZER

Harold W. Orr (to Phillips Petroleum Co. Bartlesville, OK)

U. S. Patent 3,590,628 (July 6, 1971)

To compensate a chromatog. analyzer for baseline drift and irregularities, the analyzer is first operated under normal operating conditions except that no sample is introduced. The recorded output signal of the det. is subsequently subtracted from the output signal during an actual anal. Thus baseline drift and irregularities are eliminated.

91-86

0145 1-72 No. 72-0145

IDENTIFICATION OF COMPOUNDS FORMED IN ETHYLCHLOROSILANE SYNTHESIS

N. A. Palamarchuk, A. A. Ainshtein, S. V. Syavtsillo, A. A. Nogayeva and G. G. Baranova (No affiliation given)

Usp. Gazov. Khromatogr. 2, 160-67 (1970) ref. in Referat. Zhur. Khim., 24 G 249 (In Russian)

3. LIQUID CHROMATOGRAPHY LITERATURE ABSTRACTS

Preston Technical Abstracts Co.
P.O. Box 312, Niles, Illinois 60648 - USA

1. PATENT DOCUMENTS ABSTRACTED: all countries, though primarily CA, GB, US

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: liquid chromatography

4. ABSTRACT LENGTH: 100-300 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; applicant; assignee's name and address; country of publication; kind of document; document number; document date; language

6. CLASSIFICATION SYMBOLS: yes, own subject classification

7. CHEMICAL FORMULAE: yes
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size 20 x 26cm, elite

9. ARRANGEMENT: alphabetical by author inside subject classification

10. PATENT ABSTRACTS PUBLISHED IN 1970: none - started January 1972
UP TO 1970: none - during 1972 probably 0

11. PERCENTAGE OF PATENT ABSTRACTS: 2-3%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 3 months - 1 year

14. PUBLICATION FREQUENCE: bi-monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: periodical US$ 180.- per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

LIQUID CHROMATOGRAPHY LITERATURE ABSTRACTS, Oct. 1971

0034 10-71 No. 71-0034

DEVICE AND PROCESS FOR THE MEASUREMENT OF FLUID FLOW ESPECIALLY PULSED LIQUID FLOW

Jiri Hrdina (to Ceskoslovenska Akad. Ved.,Prague, Czechoslovakia)
U. S. Patent 3,535,926 (Oct. 27, 1970)

A flowmeter using a ser. of bubbles or other gas-liq. interface for measuring pulsed fluid flow in chromatog. anal. The distance traveled by the gas-liq. interface is measured between consecutive signals, e.g., acoustic signals, thus being able to adjust fluid supply to a predetd. rate. The flowmeter may be manually operated or it may be operated on a predetd. programmed course, operating on a timed cycle. 4 figures.

0035 10-71 No. 71-0035

METHOD OF EXAMINING MIXTURERES OF AMINO ACIDS BY CHROMATOGRAPHY

Jiri Hrdina (to Ceskoslovenska Adad. Ved., Prague, Czechoslovakia)
U. S. Patent 3,537,821 (Nov. 3, 1970)

A method for the chromatog. examn. of amino acids is provided, particularly the amino acid pair of threonine-serine. The method comprises feeding a chromatog. col. with an eluent enriched with an admixt. of org. solvents having an aliphatic chain and having a b.p. higher than 100°C. More particularly, glycols and alkyl ethers thereof may be used to give improved sepn. The eluent is supplied to the col. within a period that is equal to or shorter than the elution of serine and the start of eluent supplying period precedes the introduction of the specimen or substance to be chromatographically separated.

0036 10-71 No. 71-0036

SAMPLE-SUPPLY DEVICE FOR CHROMATOGRAPHIC ANALYSIS APPARATUS

Jiri Hrdina (to Ceskoslovenska Akad. Ved., Prague, Czechoslovakia)
U. S. Patent 3,559,458 (Feb. 2, 1971)

Pressureless introduction of fluid samples into a col. employs a device wherein the sample is alternately supplied by means of a multiway valve with an eluent medium to a capillary sample receptacle. From the latter it is fed into the col. alternately with an eluent by means of another multiway valve.

0037 10-71 No. 71-0037

CRITERIA FOR THE CHOICE OF LIQUID-LIQUID SYSTEMS FOR COLUMN CHROMATOGRAPHY

J. F. K. Huber (Lab. Anal. Chem., Univ. Amsterdam, Amsterdam, The Netherlands)
J. Chromatog. Sci. 9, No. 2: 72-76 (Feb. 1971) Presented at 6th Internatl. Symposium on Advances in Chromatography, Miami Beach, FL, June 2-5, 1970

Theory of col. elution chromatog. is analyzed with reference to the role of the partition coeff. Methods are reviewed for prediction of partition coeffs. in liq.-liq. systems. Characterization of liq-liq systems for col. chromatog.

4. COPPER ABSTRACTS

CIDEC Internatinal Copper Development Council
Orchard House, Mutton Lane, Potters Bar, Hearts., England

1. PATENT DOCUMENTS ABSTRACTED: CA, DT, FR, GB, US, ZA

2. BASIS OF ABSTRACTS: usually full text of patent; sometimes an abstract

3. TECHNOLOGICAL FIELDS COVERED: copper and copper alloys, their application and working; extraction of copper

4. ABSTRACT LENGTH: 75 - 100 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; inventor(s); patentee; country of publication, kind of document; document number;

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: yes
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, in one column, on both sides of page, size

9. ARRANGEMENT: technological field grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: 33
UP TO 1970: -

11. PERCENTAGE OF PATENT ABSTRACTS: about 5%

12. LANGUAGE OF ABSTRACTS: English/German/French/Italian/Spanish according to the language edition of Copper Abstracts

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: minimum - 2 months
maximum - 2 years

14. PUBLICATION FREQUENCE: bi-monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: none - gratis distribution

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

COPPER ABSTRACTS, Jan./Feb. 1972

FABRICATION TECHNIQUES

1087 Heat treatment of copper and of its alloys. F. REVERCHON.

Centre d'Information Cuivre Laitons Alliages, 67 Boulevard Berthier, Paris XVIIe. 1971, 59 pp. (In French.)

An introductory section is concerned with annealing, hardening and tempering. Annealing for homogenization, recrystallization (recrystallization textures, grain growth and practical annealing conditions) and stress relief are discussed. Heat treatments applied to precipitation-hardenable copper alloys are described and martensitic hardening is explained with particular reference to binary and complex copper-aluminium alloys. A description is given of heat-treatment furnaces, some of which are illustrated and of furnace atmospheres for a wide range of copper alloys before ending with a short section on salt baths.

Annealing temperatures are presented for copper and 36 copper alloys, with times and temperatures for precipitation hardening and resultant properties of 19 copper alloys.

1088 Determination of the coefficient of friction when cold rolling copper strip. B. J. MEADOWS and G. W. DRINKWATER.

Metallurgia Metal Forming, 1971, Vol. 38, Oct., pp. 287–289.

Experimental and computed rolling schedules for high-conductivity copper strip were established using the Cook and Parker method. Maximum utilization of rolling facilities can be obtained by using a predetermined constant load to produce strip having good shape. A two-high experimental mill with 6 in. diameter rolls was used. The lubricant was a commercial blended mineral oil.

1089 Improvements in or relating to the manufacture of annealed copper strip. B. GAYLARD and J. T. JEFFS of BRITISH INSULATED CALLENDER'S CABLES LTD.

British Patent 1 240 334.

In the manufacture of annealed copper strip, the drawn or rolled strip is wound on to a metal cylinder to form either several layers or helical turns of strip and the wound strip is annealed in a furnace. With this method of annealing, there is considerable risk that superimposed layers of strip will become stuck together by a form of pressure welding. It has been found that such sticking can be substantially reduced by allowing the inner layers or turns of the coiled strip to reduce in diameter after completion of the winding of the coil to an extent to ensure the absence of excessive tension in the strip during the annealing process. In this invention, the strip is wound on to a collapsible former whilst maintaining the former against collapse. The coil, on its collapsible former, is placed in an annealing furnace and its temperature is raised to the annealing temperature. Then the coil is left to cool. The collapsible former allows at least the radially inner part of the coil to reduce the development of excessive tension in the strip due to its thermal contraction; thus, consequent inter-layer compressive forces with sticking of adjacent turns of the strip, are, it is claimed, avoided.

1090 Eisenhower dollar is silver-copper sandwich. J. P. QUINN.

Metal Prog., 1971, Vol. 100, Sept., pp. 91–92.

Describes production of silver-copper-clad copper-silver coinage strip. The core alloy consists of 78·5% copper and 21·5% silver and the cladding alloy of 80% silver and 20% copper. Ingots and scrap are melted in coreless induction

5. DESALINATION ABSTRACTS

Center of Scientific and Technological Information
84, Hachashmonaim Street, Tel-Aviv - Israel

1. PATENT DOCUMENTS ABSTRACTED: FR, GB, IL, SU, US

2. BASIS OF ABSTRACTS: abstract

3. TECHNOLOGICAL FIELDS COVERED: desalination, mostly Int. Cl. classes BOld and CO2b, and US classes 62, 138, 159, 201, 202, 203, 210, 252, 290

4. ABSTRACT LENGTH: 120 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; inventor(s) and/or assignee, country of publication; kind of document; document number; document date

6. CLASSIFICATION SYMBOLS: UDC

7. CHEMICAL FORMULAE: yes
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size 17 x 24cm, on each page three abstracts in area 7 x 12cm each abstract

9. ARRANGEMENT: (i) subject section as indicated in table of contents; (ii) patents follow general literature; (iii) in UDC order; (iv) in date order; (v) in alphabetical order of first author's names

10. PATENT ABSTRACTS PUBLISHED IN 1970: 118
UP TO 1970: 828

11. PERCENTAGE OF PATENT ABSTRACTS: about 25%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 2-8 months

14. PUBLICATION FREQUENCE: quarterly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same issue

16. SUBSCRIPTION FEES: US$ 25.- per year
(US$ 12.50 per year for second copy)

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

DESALINATION ABSTRACTS, January 1972

VI. ION EXCHANGE

628.165.094.94-41
Ion exchange, plant design

72-97

Improved electrolyte ion-exchange apparatus.
K.M. SALADADZE, E.M. BALAVADZE, M.S. GORODNEV, et al.
U.S.S.R. Patent No. 227,297, May 11, 1970.
(From Sov. Inv. Ill.(Chem.), Oct./Nov. 1971:Sec. 6, p. 14).

The apparatus comprises alternating sets of membranes and slit plates arranged to eliminate mixing and escape of liquids.

628.165.094.94.002.2-41
Membranes, ion exchange, manufacture

72-98

Stable laminated cation-exchange membrane manufacture.
IONICS INC. U.K. Patent No. 1,233,619, May 26, 1971.
(From Brit. Pat. Abs., v. S, no. 20, Jul. 2, 1971:Sec. D, p. 5).

An electrically conductive, homogeneous membrane of high molecular weight polyvinyl compounds is made by forming a board structure by polymerizing vinyl monomers in a non-polar inert organic solvent with at least two layers of reinforcing sheets of woven or screen type fabric material. This is followed by equilibration with a polar organic solvent which is unreactive to acids, to displace the non-polar solvent. Ion exchange groups are introduced by reacting with a sulphonating acid, preferably containing at least 95 wt% H_2SO_4 or at least 98 wt% technical H_2SO_4, at 18-50°C, preferably 18-22°C. The final step is equilibration with an aqueous medium.

628.165.094.94.002.2-41
Membranes, ion exchange, manufacture

72-99

Cation exchange membranes from ethylene copolymers.
RHONE-POULENC S.A. U.K. Patent No. 1,236,152, Jun. 13, 1971.
(From Brit. Pat. Abs., v. S, no. 24, Jul. 30, 1971:Sec. D, p. 1).

The formula of the copolymer is $(-CH_2CH_2-)_n(CH_2\underset{\underset{SO_4H}{|}}{CH}-)_m(-CH_2CHOH-)_p(-CH_2\underset{\underset{OCOR}{|}}{CH}-)_q$, in which R is a hydrocarbon radical, n, m and p are integers, q is 0 or an integer and $n/(m+p) = 4.5$ to 60 and $q/(m+p+q) < 0.1$. The membrane is prepared by treating a film of a binary ethylene-vinyl alcohol copolymer and/or ternary ethylene-vinyl alcohol-vinyl ester copolymer, in which the ratio of ethylene/hydroxyethylene units is 4.5:1 to 60:1 and the ratio of acyloxyethylene units (if present) to hydroxyethylene plus acyloxyethylene units is $< 0.1:1$, with one or more of H_2SO_4, oleum, chlorosulphonic acid, SO_3 and the addition products of SO_3 and a base.

6. FERTILIZER ABSTRACTS

Tennessee Valley Authority

1. PATENT DOCUMENTS ABSTRACTED: US patents and defensive publications, foreign patents

2. BASIS OF ABSTRACTS: full text for US - abstract for foreign patents

3. TECHNOLOGICAL FIELDS COVERED: fertilizer technology, marketing and use

4. ABSTRACT LENGTH: 175 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; inventor; assignee; country of publication; kind of document; document number; date of document; application date; length in pages

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: printed in periodical, on both sides of page, size 8½ x 11" - Press Roman 10 medium

9. ARRANGEMENT: technological grouping, author index, subject index, patent index

10. PATENT ABSTRACTS PUBLISHED IN 1970: 250
UP TO 1970: approx. 1,000

11. PERCENTAGE OF PATENT ABSTRACTS: 15%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: minimum - 60 days
maximum - 3 years

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: paper copies US$ 25 domestic per year
US$ 40 foreign per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

FERTILIZER ABSTRACTS

page missing

7. COMMERCIAL FISHERIES ABSTRACTS

attn. Mr. Frank T. Piskur, National Marine Fisheries, Bldg. 67, Naval Support Activity, Seattle, Wa 98115 - USA

1. PATENT DOCUMENTS ABSTRACTED: US

2. BASIS OF ABSTRACTS: abstract

3. TECHNOLOGICAL FIELDS COVERED: fishery food science and technology, USPO classes 8, 9, 16, 17, 21, 23, 34, 43, 48, 53, 55, 62, 69, 71, 89, 99, 114, 115, 117, 118, 119, 146, 159, 193, 195, 201, 202, 203, 204, 210, 219, 224, 252, 260, 261, 289, 294, 417, 424

4. ABSTRACT LENGTH: 25 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; country of publication; kind of document; patent number; inventor; inventor's address; references (as in the Official Gazette of the USPO)

6. CLASSIFICATION SYMBOLS: yes, own system

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical

9. ARRANGEMENT: technological field code grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: starting year
IN 1971: 168

11. PERCENTAGE OF PATENT ABSTRACTS: -

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 4 months

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: none at present

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

6.89 STATUS OF THE PRECIOUS CORAL INDUSTRY IN JAPAN, TAIWAN, AND OKINAWA: 1970

Grigg, Richard W. (Hawaii Institute of Marine Biology, University of Hawaii, Honolulu, Hawaii)
University of Hawaii Sea Grant Program, Report No. UNIHI-SEAGRANT-AR-71-02, 14 pp. (November 1971) (Honolulu, Hawaii)

The University of Hawaii is conducting a study of the ecology of precious corals and the development of precious coral fisheries in Hawaii. One of the major goals for this program is to survey the existing coral jewelry industry, which currently is almost exclusively dependent on the Japanese market. This report describes the results of a three-week trip in the summer of 1970 to Japan, Taiwan, and Okinawa, where interviews with fishermen, merchants, and scientists were held. Information gathered included observations of vessels, gear, fishing technique, and coral jewel factories and data concerning the history of the fishery, location and depths of fishing grounds, ecology of various species, and catch and market statistics.

The term "precious coral" classically refers to the red corals of commerce. These species are all placed in the family Corallidae, order Gorgonacea, subclass Octocorallia, class Anthozoa, phylum Coelenterata. At present there are 20 species known to inhabit the Indo-Pacific, six of which occur in Hawaii and seven in Japan (Bayer, 1956). Species of commercial importance in the Orient include the red coral or aka-sango, Corallium japonicum and C. nobile, the pink coral or momoiro-sango, C. elatius, and the white coral or shiro-sango, C. konojoi.
[8 figures, 1 table, 3 references] Author's introduction

7.591 CHROMATOGRAPHIC BEHAVIORS OF PROTEOLYTIC ENZYMES IN CHUM SALMON PYLORIC CAECA ON SEPHADEX GEL CHROMATOGRAPHY

Uchida, Naoyuki (Laboratory of Biochemistry, Faculty of Fisheries, Hokkaido University, Hakodate, Japan)
Bulletin of the Faculty of Fisheries Hokkaido University 21, No. 4, 305-314 (February 1971)

Proteolytic enzymes from the pyloric caeca of chum salmon showed different chromatographic patterns on the Sephadex G-100 column (2.5×100 cm.) depending upon the buffers used. The author suggests that the Sephadex gel chromatography with a borate buffer would probably be one of the useful methods for purifying the proteolytic enzyme extracted from the pyloric caeca of chum salmon.
[8 figures, 9 references] FTP

6.54 NUTRITIVE QUALITY OF WHEAT FLOUR AND BREAD SUPPLEMENTED WITH EITHER FISH PROTEIN CONCENTRATE OR LYSINE

Stillings, B. R., V. D. Sidwell, and O. A. Hammerle (Natl. Cent. Fish Protein Conc., Natl. Mar. Fish. Serv., College Park, Md.)
Chemical Abstracts 75, No. 13, 85928e (September 27, 1971)

6.54 AVAILABILITY IN MAN OF PROTEIN AND MINERALS FROM FISH PROTEIN CONCENTRATE

Spencer, Herta, Joseph Samachson, Josephine Fowler, and Mary J. Kulka (Metab. Sect., Veterans Adm. Hosp., Hines, Ill.)
Chemical Abstracts 74, No. 19, 96166k (May 10, 1971)

6.54 FISH PROTEIN EXTRACTION

Kyokuyo Hogei Co. Ltd. (pat.)
Japanese Patent 21774/71
Food Technology 25, No. 12, 78 (1290) (December 1971)

Fine particles of fish flesh are extracted with a neutral salt solution. The extract is adjusted to pH 4.5 to 5.5 by the addition of salt to precipitate a protein for use as an additive in meat and fish pastes. FTP

7.42 [DETERMINATION OF MERCURY IN TUNA USING THE ISOTOPIC DILUTION METHOD]
BESTIMMUNG VON QUECKSILBER IN THUNFISCH MIT HILFE DER ISOTOPENVERDÜNNUNGSANALYSE

Mundt, W., and W. Feldt (Isotopenlaboratorium der Bundesforschungsanstalt für Fischerei, Hamburg, Germany)
Archiv für Fischereiwissenschaft 22, No. 2, 136-145 (October 1971) (In German)

A method is described for the determination of mercury in tuna by means of atomic absorption spectroscopy.
[2 figures, 1 table, 15 references] FTP

7.52 QUANTITATIVE ULTRAMICROANALYSIS OF AMINO ACIDS IN THE FORM OF THEIR DNS-DERIVATIVES. 3. ANALYSIS OF NATURAL AMINO ACIDS. CHARACTERISTICS OF THE METHOD

Spivak, V. A., V. A. Fedoseev, V. M. Orlov, and JA. M. Varshavsky (Institute of Molecular Biology of the U.S.S.R. Academy of Sciences, Moscow B-312, and Institute of Genetics and Selection of Industrial Microorganisms, Moscow, U.S.S.R.)
Analytical Biochemistry 44, No. 1, 12-31 (November 1971)

This paper describes an ultramicromethod for the analysis of amino acids that has a sensitivity of 1×10^{-11} mole of amino acid, operating range of from 1×10^{-11} to 5×10^{-10} mole of amino acid in the initial mixture, and reproducibility (relative standard deviation) of 3-5%.
[4 figures, 4 tables, 39 references] FTP

6.130 RECOVERY OF FISH OIL AND PROTEIN FROM FISH PROCESSING EFFLUENT

Kato, Kenji, and Shizuhiro Ishikawa (Kurita Cent. Lab., Kurita Water Ind., Ltd., Yokohama, Japan)
Chemical Abstracts 74, No. 18, 90931j (May 3, 1971)

6.130 FISH CONVERSION

Anderson, E. E.; Marine Technology Inc. (pat.)
U.S. Patent 3,586,515
Food Technology 25, No. 11, 116 (November 1971)

Spray-dried whole fish meal and oil are prepared from whole fish. FTP

8. FLUIDICS FEEDBACK

BHRA, Fluid Engineering
Cranfield, Bedford - England

1. PATENT DOCUMENTS ABSTRACTED: GB patents only

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: fluidics
groups G and F of British Patent classification

4. ABSTRACT LENGTH: 50 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; inventor and/or patentee; country of origin; country of publication; kind of document; document number; date of document

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: yes

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4, in two columns

9. ARRANGEMENT: subject classification

10. PATENT ABSTRACTS PUBLISHED IN 1970: approx. 130-160
UP TO 1970: approx. 600

11. PERCENTAGE OF PATENT ABSTRACTS: 17%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: average 2 months

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

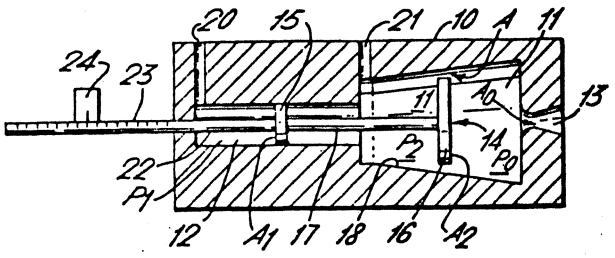
16. SUBSCRIPTION FEES: £20 (US$ 52.-) for UK and Europe per year
£25 (US$ 65.-) other countries per year

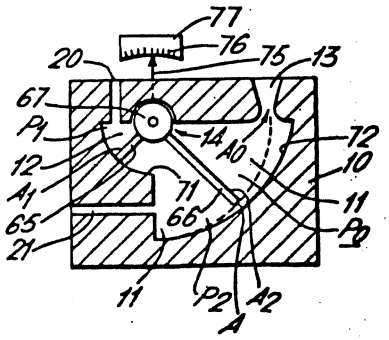
17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

10.652F5
Improvements in or relating to fluid pressure ratio sensors.
Honeywell Inc., (U.S.A.). British Patent Spec. 1,241,267. (4th August, 1971).

Pressure ratio sensors are described in which the outlet 13 is a convergent-divergent nozzle having a minimum throat area and determines the minimum gas pressure applicable to second inlet 21 (sufficient to result in choked flow across 13). In use, gas under pressure P_1 and P_2 whose ratio is to be determined, is supplied to inlets 20 and 21 respectively (the larger pressure P_2 connected to inlet 21). At equilibrium, it is shown that P_2/P_1 is a function of X, where X is the reading on the indicator scale. (S.R.)





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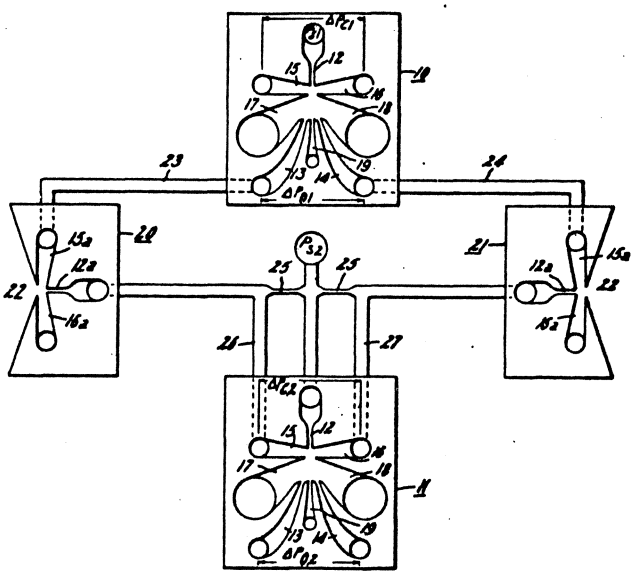
TRANSDUCERS

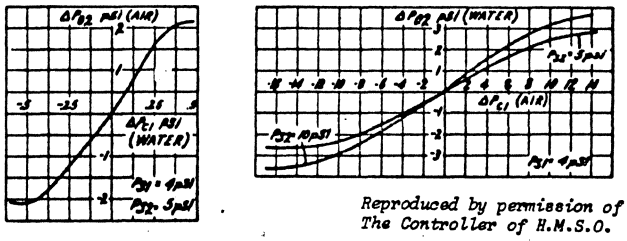
10.653F5
Improvements in or relating to fluid control switching arrangements.
Norcon (Norris) Limited. British Patent Spec. 1,230,905. (5th May, 1971).

The invention relates to a pneumatic to hydraulic step-up valve capable of providing output pressures as high as 3000 psi, when activated by control pressures of the order of 1 psi. and is a patent of addition to British Patent Spec. 1,181,243, dated 26th May, 1971. (S.R.).

10.654F5
Improvements in pneumatic-hydraulic fluidic transducer.
General Electric Company, (U.S.A.). British Patent Spec. 1,243,707. (25th August, 1971).

The invention relates to a pneumatic to hydraulic or hydraulic to pneumatic transducer with no mechanical moving parts. The transducer consists of two proportional fluid amplifiers 10 and 11 having as a source of supply any fluid at port P_{s_1} and any other kind of fluid at port P_{s_2}. The two amplifiers are connected in a bridge circuit (Fig. 1a) through two half proportional amplifiers 20 and 21, that act as variable fluidic resistance and provide the means to isolate and avoid the mixing of different fluids. (S.R.)





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GENERAL TOPICS

BIBLIOGRAPHIES/REVIEWS/SURVEYS

10.655F5
Fluidics - where from here?
Bowles, R.E. (Bowles Engineering Corp., U.S.A.). Fluidics Quarterly, 2, 2, pp. 71-74. (August, 1970).

This paper provides an overview of the significant trends in the fluidics industry. The author identifies a number of applications in industrial controls and other fields where fluidics has provided significant performance and cost advantages. Import system requirements in terms of module cost, cleaning and packaging are considered.

9. FLUID POWER ABSTRACTS

BHRA Fluid Engineering
Cranfield, Bedford - England

1. PATENT DOCUMENTS ABSTRACTED: GB patents only

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: hydraulics and pneumatics

4. ABSTRACT LENGTH: 100 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; inventor and/or patentee; country of origin; country of publication; kind of document; document number; date of document

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: yes

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4, in two columns

9. ARRANGEMENT: chronological inside technological field grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: 400
UP TO 1970: no data

11. PERCENTAGE OF PATENT ABSTRACTS: 33%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 2-3 months

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: £20 (US$ 52.-) for UK and Europe per year
£70 (US$ 182.-) for other countries per year, including air-mail postage

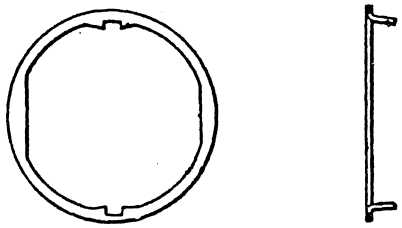
17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

FLUID POWER ABSTRACTS, April 1971

ular grooved-shaped recesses are too wide, it is possible for the rings to jump out of the annular grooves.

The object of the present Specification is to provide a more reliable connection between the coupling rings, illustrated in the Figures, and the pistons. (R. W.)



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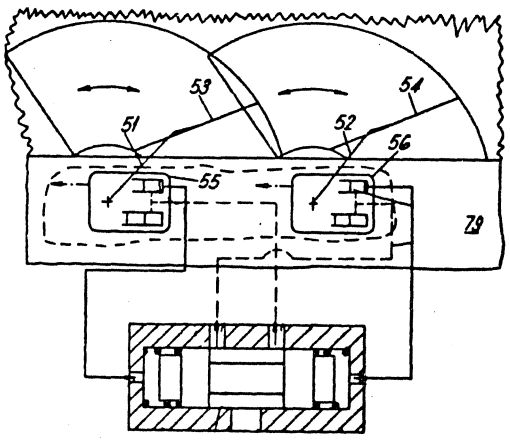
04. 0350FP7
Hydraulic motor.
General Motors Corp. (U. S. A.) British Patent Spec. 1, 216, 950. (23rd December, 1970).

The axial-piston type machine covered, is designed to operate as a windscreen wiper motor in automobiles. In the wiper system a drive shaft is made to osciallate by two pistons alternately powered by the pressurised hydraulic fluid. The Figure shows the schematic representation of two hydraulic motors (55) and (56) installed behind an automobile instrument panel (79), with a control valve (65), actuating wiper blades (53) and (54) through wiper arms (51) and (52). Synchronisation of the motors, in order to avoid collision of the wiper blades, is said to be guaranteed (R. W.)



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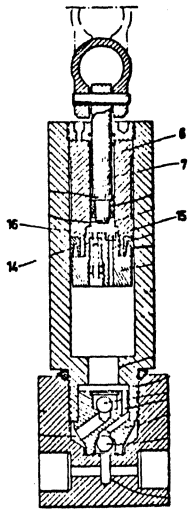
04. 0351FP7
Piston unit for a piston pump.
Domkraftaktiebolaget Nike. (Sweden). British Patent Spec. 1, 216, 930. (23rd December, 1970).

The Figure shows a sectional view of a pump incorporating the piston unit described in the Specification. One application of the pump is to feed a hydraulic cylinder which is required to move relatively fast under no load and relatively slowly when loaded. These two operations correspond respectively to low and high pressure conditions.

The piston unit consists of two parts, an inner piston (7) and an outer piston (6). Valve (16) is provided with a spring giving a closed position bias, but valve (15) has no spring. The pump is self-adjusting in as much as for a given pressure setting for delivery valve (16), the pump will operate either under high or low pressure conditions, after a suction stroke in which both pistons (6) and (7) rise to their uppermost positions. (R. W.).



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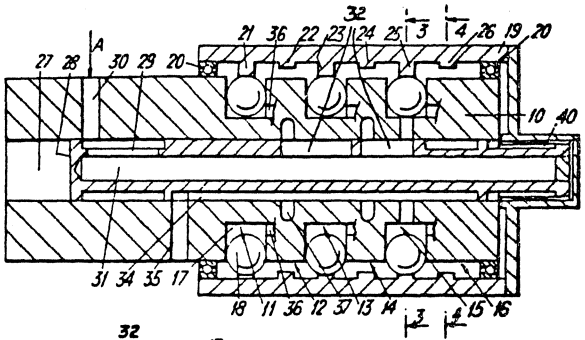
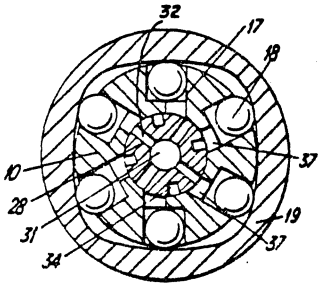
04 0352FP7
Radial piston type hydraulic motor.
Rolls Royce Ltd. British Patent Spec. 1, 217, 525. (31st December, 1970).

Patent claims a radial-piston hydraulic motor, and as the Figures show, (Figure 3 being a transverse section on the line 3-3 in Figure 1), it is of the multi-row ball piston type, which incorporates a facility for varying the number of rows of cylinders in operation so as to provide variations in motor torque. The control valve (28) moves axially to enable a variable number of pairs of rows of pistons to be supplied with pressurised operating fluid. The construction is said to give a machine with good power to weight and size ratios. (R. W.)





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10. FLUID SEALING ABSTRACTS

BHRA Fluid Engineering
Cranfield, Bedford - England

1. PATENT DOCUMENTS ABSTRACTED: GB patents only

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: fluid seals
Int. Cl. F16j

4. ABSTRACT LENGTH: 50 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; inventor and/or patentee; country of origin; country of publication; kind of document, document number; date of document

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: yes

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4, in two columns

9. ARRANGEMENT: technological field grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: 134
UP TO 1970: 372

11. PERCENTAGE OF PATENT ABSTRACTS: 30%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 3-6 months

14. PUBLICATION FREQUENCE: bi-monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: £12 (US$ 31.20) for UK per year
£16 (US$ 41.60) for Europe per year, including air-mail postage
£20 (US$ 52.00) for other countries per year, including air-mail postage

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

FLUID SEALING ABSTRACTS, May/June 1971

3.135FS6
Improvements in or relating to resiliently compressible materials.
Compagnie du Filage des Metaux et des Joints Curty. (France). British Patent Spec. 1,221,992. (10th February, 1971).

This invention is concerned with improving the resiliency of compressible gasket materials. The materials used consist of vulcanised rubber particles preferably of a spherical shape, mixed with a filler or asbestos or manilla fibres. Starch or gelatine is used as the binding agent. The proportion of filler fibrous material to elastomeric particles is different to normal gasket material. Four formulations are given in detail. (R.M.A.).

3.136FS6
Sanitary pipe joints.
A/S Schionning & Arve De Forenede Gummi-ag Luftringebafriker. (Denmark). British Patent Spec. 1.222,364. (10th February, 1971).

A bell and spigot joint designed for sealing sanitary pipes. The joint consists of two circular synthetic rubber gaskets. One gasket is made of solid rubber and serves to centre the joint and provides a secondary seal. The other gasket is made of sponge rubber to provide a tight fit around the pipe and housing even under excessive conditions of pipe tolerance and condition. The sponge rubber gasket is fixed into place by using a suitable adhesive before the pipe end is inserted. (R.M.A.).

3.137FS6
Seal.
Divcon International (U.K.). Ltd., British Patent Spec. 1,223,846. (3rd March, 1971).

This invention relates to the problem of coupling two large vessels together. The

Fig.3.

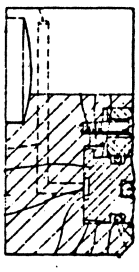
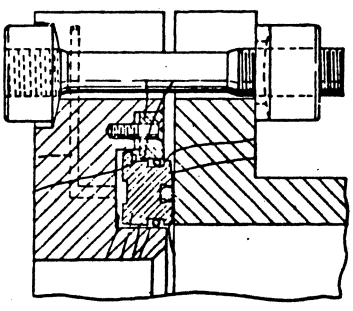


Fig.4.



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design of seal can be used to join a diving bell containing high pressure to a decompression lock. This operation it is claimed can be made quickly, ensuring a gas tight seal with automatic compensation for misalignment of the connecting surfaces.

Figs. 3 and 4 of the Specification illustrate the sealing arrangement. The main seal consists of a 'floating' ring 1, which is free to move axially, and three O rings 9,10, 12. Effective sealing is ensured by using either compressed air or pressurised hydraulic fluid via channel 17, to force the sealing ring against the mating flange. Only fringe tight bolts are necessary to hold the two flanges together. (R.M.A.).

3.138FS6
Improvements in or relating to fluid seals.
Dart Industries Inc. (U.S.A.). British Patent Spec. 1,224,032. (3rd March, 1971).

A seal for an autoclave used to convert ethylene to polyethylene in a pressure range 18,000 to 30,000 PSI and temp range 149°C (300°F) to 316°C (600°F).

The seal is comprised of three 'Teflon' (tetrafluoroethylene) rings incorporating stainless steel expander rings about 1/8 in. thick. The expander rings force the TFE rings into contact with the vessel wall to provide an initial sealing contact as the pressure is increased to the operating pressure. (R.M.A.).

3.139FS6
Static seal.
Minnesota Rubber Co. (U.S.A.). British Patent Spec. 1,224,219. (3rd March, 1971).

A high pressure type of elastomeric seal. The seal is basically square in section and is made with shaped lobes and cavities. The seal is illustrated in Figs. 2, 3 & 4 of the Specification. (R.M.A.).

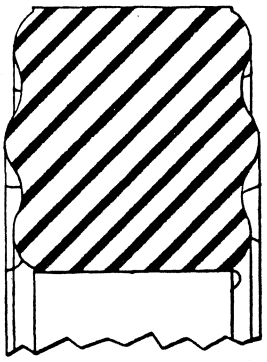

FIG 2

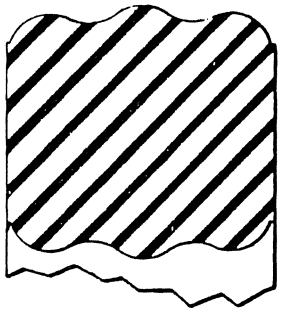

FIG 3

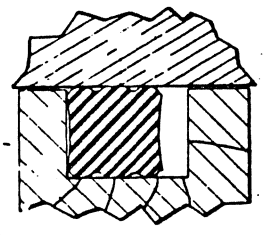

FIG 4

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DYNAMIC SEALS

3.140FS6
Dimensional parameters influencing the behavior of the Morrison unsupported area seal.
Pick, R.J. and Burns, D.J. (Univ. of Waterloo, Canada). Trans. A.S.M.E., 92, Series B, 4, pp. 755-758. (November, 1970).

The deformation of a Morrison seal, used successfully at 56,000 lb/in^2 pressure, is determined using finite element techniques. This analysis is used as the basis for a discussion of the likely influences of change in seal

11. (FOOD) BMFIRA ABSTRACTS FROM CURRENT SCIENTIFIC AND TECHNICAL LITERATURE

The British Food Manufacturing Industries Research Association
Randalls Road, Leatherhead, Surrey - England

1. PATENT DOCUMENTS ABSTRACTED: DT, FR, GB, JA, US

2. BASIS OF ABSTRACTS: for GB: full text used; for others: an abstract used

3. TECHNOLOGICAL FIELDS COVERED: food industry as a whole

4. ABSTRACT LENGTH: about 50 words

5. BIBLIOGRAPHIC DATA INCLUDED: for GB; patent number; title; patentee; inventors; country of origin. For other countries: title; patentee; inventor (when known); country of publication; kind of document; document number; source of abstract

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: occasionally
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4

9. ARRANGEMENT: GB: patents in numerical order
Other countries: arranged alphabetically according to letters of title

10. PATENT ABSTRACTS PUBLISHED IN 1970: 454
SINCE 1947 UP TO 1970: 8,000 approx.

11. PERCENTAGE OF PATENT ABSTRACTS: 8%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: for GB: 1-2 months
others: 4-7 months

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same issue

16. SUBSCRIPTION FEES: BMFIRA members - no charge
Commercial organizations, non-members - £50 (US$ 130.-) per year
Educational establishments - £15 (US$ 39.-) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

BFMIRA, ABSTRACTS FROM CURRENT SCIENTIFIC AND TECHNICAL LITERATURE, March, 1972

216

"Cream-centered chocolates are made from a fondant containing lactose to prevent moulded centre from sticking to mould."

1080. DRIED EGG PRODUCT.
E. LEVIN. U.S. Pat., 3,607,304 (Fd Technol.,Champaign, 1971, 25(12), 1294).

"Eggs are heated with an organic solvent to remove fat by solvent extraction and water as an azeotropic mixture. Resulting solid product free of Salmonella, has an indefinite shelf life without spoilage."

1081. FOAMING CONFECTIONERY.
UNILEVER N.V. Jap. Pat., 25698/71 (Fd Technol.,Champaign, 1971, 25 (12), 1297).

"Sugar confectionery compositions which foam upon contact with water are prepared by combining at elevated temperature the liquid confectionery hase and a bicarbonate citric acid foaming agent."

1082. MEAT PROCESSING.
EEFP CORP. (R. McCARTHY.) U.S. Pat., 3,603,240 (Fd Technol., Champaign, 1971, 25 (12), 1290).

"Pieces of raw meat are placed in containers, subjected to subcook heating and/or pressure, and promptly subjected to vacuum extraction, causing removal of melted fats and various enzymic liquescent constituents from the uncooked meat, which is then seasoned and/or preserved in such containers."

1083. MICROWAVE COOKING PROCESS.
REDDI-BACON, INC. (A.B. LANE.) Can. Pat., 879,614 (Fd Technol., Champaign, 25 (12), 1290).

"Pre-cooking process for bacon or other meat products yielding an improved product in which meat is preheated by conventional means before introduction into a microwave oven for final cooking."

1084. SMOKING PROCESS.
DEVELOPMENT CONSULTANTS INC. (W.M. ALLEN.) Can.Pat., 874,925 (Fd Technol., Champaign, 1971, 25 (12), 1289).

"Foodstuff to be smoked is exposed to a cloud of nebulized liquid smoke."

12. FOOD SCIENCE AND TECHNOLOGY ABSTRACTS
(International Food Information Service)

Commonwealth Bureau of Dairy Science and Technology
Shinfield, Reading RG2 9AT - England

1. PATENT DOCUMENTS ABSTRACTED: AU, BG , CA, CH, CS, DK, DL, DT, FR, GB IL, IN, JA, NL, NO, NZ, OE, PK , PO, RU, SU, SW, US, ZA

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: food science and technology

4. ABSTRACT LENGTH: 200 words

5. BIBLIOGRAPHIC DATA INCLUDED: author (inventor or patentee); year; title (modified); country of publication; kind of document; document number; language

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size 18 x 24cm, type size 8/9

9. ARRANGEMENT: topic sectionalization and subject index

10. PATENT ABSTRACTS PUBLISHED IN 1970: 2,000
UP TO 1970: 5,000

11. PERCENTAGE OF PATENT ABSTRACTS: 10%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 3-12 months

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: abstract journal £100 (US$ 260.-) per year
magnetic tapes £700 (US$1,820.-) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

FOOD SCIENCE AND TECHNOLOGY ABSTRACTS, February 1972

A plant handling instant, powdered non-dairy whitener (Cremora) is described; coffee whitener is collected from 3 shifts, stored in bottom-disharge transport-storage bins, and packaged in 1 shift. AB

2 G 88
Low fementable foods.
Smith, W. J.
British Patent 1 239 056 (1971) [En]
Sweet foods are made less fermentable by replacing a portion of the fermentable carbohydrate by a low fermentable product, such as a disaccharide, or a starch hydrolysate. IFT

2 G 89
Low calorie foods.
Mattson, F. H.; Volpenhein, R. A. (Procter & Gamble Co.)
United States Patent 3 600 186 (1971) [En]
Low calorie food compositions are produced by replacing at least a portion of the fat content of a conventional food with sugar fatty acid esters or sugar alcohol fatty acid esters. IFT

2 G 90
Food fortification: Which products? Which nutrients? Which guidelines?
Gage, J.
Food Engineering 43 (5) 125, 127 & 129-130 (1971) [En] [Fine Chemicals Dept., Hoffmann-La Roche, Inc., Nutley, New Jersey, USA]
Food fortification is discussed with reference to addition of vitamin E, vitamin A, ascorbic acid and lxsine to margarine, vitamin B_6, vitamin A and Fe to flour, and vitamin A to tea and sugar. The nutritional fortification of synthetic and fabricated foods is also considered. AB

2 G 91
[Food supplement for pregnant women.]
Societe Aponti-France
French Patent 2 053 703 (1971) [Fr]
Ca, vitamins and higher proteins are provided by a single food supplement of neutral flavour. 15 g sesame seeds and 17 g sucrose are ground together, and 0.05 g halibut liver oil dispersed through 15 g glucose is admixed, together with 28 g dried skim-milk, 5 g wheat-germ, 5 g lactic yeast, 5 g dried whole egg, and 1 g freeze-dried liver. This mixture is moistened with a syrup made from 3 g glucose in 10 ml water, and screened to a grain size of 1-2 mm. The granules are spread in a thin layer and caramelized by heating at 140°C for 20 min. To the powdered granules are added 2.35 g tricalcium phosphate, 2 g starch and 1.6 g aromatic substances, and the product is compressed into 7 g tablets. Daily dose is 25-50 g. W&Co

2 G 92
[Sterilization of fermentation media.]
Kyowa Hakko Kogyo Co. Ltd.
Japanese Patent 24 588/71 (1971) [Ja]
Hydrocarbon fermentation media are sterilized by bubbling in ethylene oxide or propylene oxide, optionally mixed with halohydrocarbons. IFT

2 G 93
Skylab astronauts to eat well in space; menu of 73 foods includes frozen.
Haycock, C. E.
Quick Frozen Foods 34 (1) 58-59 (1971) [En]
Skylab astronauts due to spend 4-8 wk in earths orbit in 1972 will take some 2000 lb. of food chosen from the following food categories: frozen, dehydrated, intermediate moisture and wetpack. Production and packaging of the frozen foods by Whirlpool Corp., Benton Harbor, Michigan, and the menu available to Skylab astronauts, are described. VJG

2 G 94
Factors in developing high-protein foods.
Lachmann, A.
Food Engineering 43 (5) G40 & G42 (1971) [En] [Prodell Co., Wynnewood, Pennsylvania, USA]
Development of high protein foods requires precise knowledge of the nutritional requirements, technological advances and local dietary conditions. Details are given of protein and calorific values of high protein biscuits being marketed in India and Australia. AB

2 G 95
[Albuminous products.]
Nisshin Oil Mills Ltd.
Japanese Patent 28 135/71 (1971) [Ja]
Powdered protein material is mixed with an alkaline agent, a derivative of a lactone and sufficient water to enable it to be worked. After adjusting the pH to 8-10, the mixture is heated at 140-250°C under pressure in an autoclave or an extrusion-moulding machine in which an abrupt return to atm. pressure changes the mixture into the form of a gel. IFT

2 G 96
The functional requirements of proteins for foods. [A lecture]
Mattil, K. F.
Journal of the American Oil Chemists Society 48 (9) 477-480 (1971) [5 ref. En] [A&M Univ., College Station, Texas 77843, USA]
As a growing amount of research attention has been diverted, for a number of reasons, from the traditional protein foods to the so-called unconventional food proteins, awareness has increased of the need to understand the functional properties of these proteins. Some empirical functionality tests have been devised, but it is submitted that many of these could yield misleading information, inasmuch as they often ignore or even run counter to the environmental interactions to which proteins are exposed in food systems. Some examples are given of the influence of the ionic environment upon one basic functional property of proteins, their solubility in aqueous solution. AS

2 G 97
Textured and shaped oilseed portein food products. [A lecture]
Wilding, M. D.
Journal of the American Oil Chemists' Society 48 (9) 489-491 (1971) [8 ref. En] [Res. and Development Center, Swift and Co., Oak Brook, Illinois 60521, USA]
The 2 main procedures for texturing and shaping oilseed protein are spinning of protein isolates, and direct extrusion of flour. The spinning technique is more expansive and has greater

13. GOLD BULLETIN

Johnson, Matthey and Co., Ltd.
78 Hatton Garden, London EC 1P 1AE - England

1. PATENT DOCUMENTS ABSTRACTED: patents and like documents from DT, FR, GB, NL, US

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: gold - applications in chemical and electronics industry and metallurgy

4. ABSTRACT LENGTH: 35 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; patentee; country of publication; kind of document; document number;

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: yes, where relevant
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: abstracts printed at back of periodical on both sides of page, size A5, in two 235mm columns, type size 8/9 plantin 15 ems

9. ARRANGEMENT: numerical order in countries within technological field grouping (e.g. Production, Gold and its Alloys, Chemical Compounds, etc.)

10. PATENT ABSTRACTS PUBLISHED IN 1970: 160
UP TO 1970: 460

11. PERCENTAGE OF PATENT ABSTRACTS: 50%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: DT: 2-5 months; FR: 6-9 months; GB: 6-18 weeks; NL: 3-6 months; US: 4-7 months

14. PUBLICATION FREQUENCE: quarterly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same issue

16. SUBSCRIPTION FEES: none

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

Chemical Gold Plating

WESTERN ELECTRIC CO. *German Offen.* 2,052,787

A chemical Au-plating bath contains an Au-cyanide complex stabilised with free cyanide and a B-containing reducing agent.

LABORATORY APPARATUS AND TECHNIQUE

Hydrogen Determination

GENERAL ELECTRIC CO. *German Offen.* 1,648,913

The content of H_2 and other reducing gases in the atmosphere is monitored through changes in the electrical resistance of a semi-conductor coated with a catalyst such as Au.

JOINING

Uniting Fusible Porcelain with a Precious Metal Base Member

NOBILIUM PRODUCTS INC. *U.S. Patent* 3,585,064

A precious metal base is coated with fusible porcelain by soldering a coating of irregular gold particles to it, applying a paste of low-fusing porcelain, and then fusing the paste.

HETEROGENEOUS CATALYSIS

Oxidation Catalyst

FARBENFABRIKEN BAYER A.G. *British Patent* 1,246,015

Vinyl esters are obtained by reaction of C_2H_4 with O_2 and a carboxylic acid in the presence of a supported catalyst containing Pd and Au.

Vinyl Acetate Production

FARBENFABRIKEN BAYER A.G. *German Offen.* 1,668,088

$CH_3COOCHCH_2$ is produced from C_2H_4 in the presence of a Pd-Au catalyst.

Vinyl Acetate Production

FARBENFABRIKEN BAYER A.G. et al.
German Offen. 1,668,114

$CH_3COOCHCH_2$ is produced from C_2H_4 in the presence of a Pt-metal activated with Au, Ag and other metals.

Ammonia Oxidation Catalysts

M. A. MINIOVICH et al. *German Offen.* 1,959,137

NH_3 is oxidised to NO in the presence of a low-Pt content gauze comprising 72–82% Pt, 15–22% Pd, 2–3.5% Rh and 0.05–0.15% Au, Fe and Ir.

Ethylene Oxide Production

ESSO RESEARCH & ENGINEERING CO.
Dutch Appl. 70.18651

C_2H_4 is oxidised to C_2H_4O over a bimetallic catalyst such as 0.2–10% Au-Ag.

FUEL CELLS

Metal-air Battery

WESTINGHOUSE ELECTRIC CORP. *British Patent* 1,242,832

A metal-air battery has gas electrodes containing an active catalytic material such as Pt, Ag or Pd. Auxiliary electrodes are Ni nets which have been Au-plated to prevent early passivation.

Fuel Cell Electrode

LEESONA CORP. *U.S. Patent* 3,595,700

A light-weight electrode for use in an electrochemical cell consists of a layer of catalyst such as Au pressure welded via a plastic membrane to a metal grid.

CHEMICAL TECHNOLOGY

Single Crystals

INTERNATIONAL BUSINESS MACHINES CORP.
British Patent 1,247,214

Au is used in a process for growing discrete single crystals of Si or Ge.

Photographic Emulsion

EASTMAN KODAK CO. *British Patent* 1,250,659

Images of good contrast and storage stability with low background density are obtained from an emulsion containing an Ag halide, $CdBr_2$ or $PbBr_2$, a halogen acceptor and 10–200 mg of an Au salt per mole of Ag halide.

ELECTRICAL AND ELECTRONIC ENGINEERING

Semiconductor Devices

ASSOCIATED SEMICONDUCTOR MANUFACTURERS LTD.
British Patent 1,244,225

Semiconductor devices have metal electrode layers of Au on Mo or Pt.

Transistor

MATSUSHITA ELECTRIC INDUSTRIAL CO. LTD.
British Patent 1,250,020

In a semiconductor device, the first and second regions are doped with an impurity such as Au.

Capacitor

WELWYN ELECTRIC LTD. *British Patent* 1,250,242

A capacitor element is obtained by firing a layer of a cermet paste, such as an Au or Ag conductive paste, on to a Ni substrate.

Molybdenum-Gold-Molybdenum Interconnection System for Integrated Circuits

TEXAS INSTRUMENTS INC. *U.S. Patent* 3,581,161

A multilevel contact and inter-connection system for integrated circuits has at least three levels. The first layer is Mo and is connected to a semiconductor through an opening in its insulating layer. The second layer is Au and the third Mo. The Mo does not alloy with the semiconductor material or the Au.

Bonding System for Semiconductor Device

MOTOROLA INC. *U.S. Patent* 3,593,412

A method of bonding a semiconductor device to a metal substrate involves depositing an Au solder preform on to the semiconductor and coating the metal substrate with a layer of Au, a layer of Ag and another layer of Au. The semiconductor is bonded to the substrate by heating the latter and placing the Au preform on top.

Thyristors and Other Semiconductors

JOSEPH LUCAS (INDUSTRIES) LTD. *U.S. Patent* 3,596,348

Thyristors are produced from an N-type wafer by forming P-type layers on opposite sides to act as the anodes and gates of the thyristors. N-type layers acting as the cathodes are then produced in or on the plate layers, after which the wafer is coated with Ni and then with Au. Au is removed from part of each gate-cathode junction which is exposed in the surface of the wafer.

DECORATIVE USES

Printing Unit

HANS KROSEL *British Patent* 1,249,187

A simplified version of a platen-press unit for printing from a roll of Au foil is described.

14. GRAPHIC ARTS ABSTRACTS

Graphic Arts Technical Foundation, Inc.
4615 Forbes Avenue, Pittsburgh, Pennsylvania 15213 - USA

1. PATENT DOCUMENTS ABSTRACTED: US

2. BASIS OF ABSTRACTS: abstract (USPO Gazette)

3. TECHNOLOGICAL FIELDS COVERED: printing, paper, ink, photography; US classes 101, 129, 179 and 95 respectively

4. ABSTRACT LENGTH: 50-100 words average

5. BIBLIOGRAPHIC DATA INCLUDED: title; assignor; patentee; country of publication; kind of document; document number; year

6. CLASSIFICATION SYMBOLS: yes, according to library system

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size A5

9. ARRANGEMENT: by own classification grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: 420
UP TO 1970: more than 1,000

11. PERCENTAGE OF PATENT ABSTRACTS: 10-15%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: within 6 months

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: US$ 20.- per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

machine, that held the image strongly, and that kept the non-image areas clean. The pattern of development of Howson-Algraphy's Marathon plate is described in detail.

LITHO PLATE
D. J. Fry and B. R. D. Whitear, assignors to Polychrome Corp.

655.324
U. S. Patent 3,589,898
1971

This application describes a positive working presensitised lithographic plate which comprises a support base having thereon a light-sensitive coating which comprises an O-napthoquinone 1,2 diazide or an O-benzoquinone 1,2 diazide and dispersed throughout the coating a photochromic compound which on exposure to strong light changes to a color the absorption of which is above 500 nm.

OFFSET PRINTING APPARATUS HAVING DISPOSABLE DAMPENING AND INKING MEANS
R. D. Brackett, assignor to Polaroid Corp.

655.328
U. S. Patent 3,593,659
1971

In an offset printing press, disposable dampening and inking materials, supplied in premoistened and preinked form, are supported in an unrestrained manner by dampening and inking cylinders, respectively, and disposed between them and the plate cylinder to provide controlled dampening and inking of the pressplate.

PLANOGRAPHIC PRINTING PRESS
D. A. Newman, assignor to Columbia Ribbon and Carbon Mfg. Co.

655.324
U. S. Patent 3,592,137
1971

As an improved planographic printing plate based upon a polyvinyl alcohol binder material in the printing layer. The improvement resides in the incorporation of a certain amount of zinc oxide, relative to the amount of polyvinyl alcohol, in order to provide a printing layer which has excellent hydrophilic-oleophilic balance, excellent ink-drying properties and avoids spreading of the oleophilic images on the plate surface.

15. HOSIERY ABSTRACTS

The Hosiery and Allied Trades Research Association
7 Gregory Blvd., Nottingham, NG7 6LD - England

1. PATENT DOCUMENTS ABSTRACTED: GB, US

2. BASIS OF ABSTRACTS: full text for GB, abstract for US

3. TECHNOLOGICAL FIELDS COVERED: knitting;
some clothing and textiles
mainly Int. Cl. D04b

4. ABSTRACT LENGTH: 40 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; inventor(s); assignee; country of publication; kind of document; document number; date of document; priority country; number and date of application

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: yes
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: printed in A5 periodical, single column, on both sides of page, 10 point Times and title in Times bold; similar version on single-sided adhesive-backed paper

9. ARRANGEMENT: technological field grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: approx. 600
UP TO 1970: approx. 12,000

11. PERCENTAGE OF PATENT ABSTRACTS: 45%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: minimum 6 weeks
maximum 20 weeks

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: paper copies £7.50 (US$ 19.50) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

19. Note: same abstracts also supplied to and printed simultaneously in WORLD TEXTILE ABSTRACTS.

Method of manufacturing warp knit goods, mechanism for performing the method, and warp knit goods obtained by the method
M. Valls Rius
BP 1,235,700: 16 June 1971; Application (Spain No. 342090,342091,342092) 7 June 1967.

Warp knitted goods are produced by supplying yarn to a series of reciprocating parallel needles by means of series of parallel warp guides, the ends of which are reciprocated along a laterally oblique path with respect to the needles. Each guide intersects the path of one or more needles, the movements being synchronized so that each guide can supply yarn to one or more needles and each needle can receive yarn from one or more guides. Individual needles and guides can be operated independently by cams over paths of varying length. In one embodiment the needles are arranged in a circle of small diameter for the production of fine gauge non-run tubular hosiery. 16 claims. *21-708*

Methods and apparatus for producing stockings
O. Palme and F. Vatter (= J. H. Vatter Nachf. KG)
BP 1,236,256: 23 June 1971; Application (Germany No. P16 35 989·0) 18 September 1967.

The invention relates to the production of fine gauge stockings on circular rib machines and describes a method of inserting the dial and cylinder needle rows individually or jointly during the production of the welt, heel, sole and toe portions of the stocking. *21-709*

HOSE, HALF-HOSE

Patents

Articles of clothing
Pretty Polly Ltd, M. R. Johnson and F. Turner
BP 1,235,361: 16 June 1971; Application (No. 2414/68, 9278/68, 13121/68 and 26415/68) 16 January 1968, 26 February 1968, 19 March 1968 and 4 June 1968.

The specification describes a method of producing tights with closed toes by continuous unidirectional rotary knitting from one end of the blank to the other. The method comprises (a) knitting the toe, foot and leg portions of one leg part, (b) knitting an intermediate tubular stretch portion with an increased stitch length to form the panty section, (c) knitting the other leg part terminating with the toe, and then (d) slitting the panty portion between two markers in a walewise direction to form a waist opening. The method is applicable to the production of boarded or unboarded tights. 31 claims. *21-710*

Stockings, tights or other knitted articles of wear
M. B. Nebel and E. M. Nebel
BP 1,237,131: 30 June 1971; Application (Germany No. P 16 10 544·5) 4 October 1967.

A stocking is knitted with a double welt, the inner part of which contains exposed floats of non-slip elastic threads that grip the skin of the wearer to retain the stocking in place. *21-711*

Combination girdle and stockings
Bear Brand Hosiery Co. and H. Pope
USP 3,559,654: 2 February 1971; Application (No. 756.000) 28 August 1968.

The lower leg portions of a girdle are provided with laminated bands of a high-friction material capable of supporting stockings. *21-712*

16. MARINE ENGINEERING AND SHIPBUILDING ABSTRACTS
MARINE ENGINEERS REVIEW

The Institute of Marine Engineers
76 Mark Lane, London EC3 - England

1. PATENT DOCUMENTS ABSTRACTED: GB

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: transport, GB classification Division B7, Sections A, M, S, V

4. ABSTRACT LENGTH: 250 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; country of publication; kind of document; document number; patentee, date of document

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: yes, where appropriate

8. PRINTING ASPECTS: in both publications, printed on both sides of page, size 21 x 27.5cm, in three columns

9. ARRANGEMENT: in serial number of abstract

10. PATENT ABSTRACTS PUBLISHED IN 1970: 17
UP TO 1970: 200 approx.

11. PERCENTAGE OF PATENT ABSTRACTS: 3%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 2-6 months

14. PUBLICATION FREQUENCE: monthly in periodical Marine Engineers Review; quarterly in Abstracts of Marine Engineering/Shipbuilding

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same publication

16. SUBSCRIPTION FEES:

Marine Engineers Review	-paper ed.)	£6 (US$15.60) p.a
	-microfiche ed.)	
Marine Engineering and Shipbuilding Abstracts	-paper ed.)	£4 (US$10.40) p.a
	-microfiche ed.)	

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

ABSTRACTS OF MARINE ENGINEERING/SHIPBUILDING, January, February, March, 1971

Patent Specifications

866. Jet deflexion control system

The present invention relates to a jet deflexion control system which can be applied to ducted propellers of the "Kort" nozzle type, or to any similar arrangement.

The invention enables a substantial proportion of the thrust of a fixed ducted propulsion unit to be vectored over a range greater than 90 degrees. The manoeuvrability of a ship so fitted will be much greater than that given by conventional propellers and rudders and, in addition, the reversed thrust produced by deflexions greater than 90 degrees allows the ship to have some astern performance without the use of reversing gearboxes or turbines. (See Fig. below).

Suspended beneath the hull (1) of a vessel is a duct (2) enclosing a multi-bladed rotor or propeller driven by the shaft (4), either operating alone or followed by a set of stator blades (3). The top and bottom of the duct are extended aft to terminate in a pair of bearings (5). Movable blades (6) and (7), which are parallel to the jet stream in the undeflected position, are supported at the bearings (5) and by shaft (8) and a bearing at the far end of the shaft (9) respectively and are rotatable about the bearing axis, which is orthogonal to the jet stream, by the shafts (8) and (9) respectively. Forward blade (6) extends upstream ahead of the bearing axis and rear blade (7) extends downstream to the rear of the bearing axis. The shafts (8) and (9) are shown concentric but could also be arranged with shaft (8) just ahead of (9).

The rear blade (7) is shown as having part of the blade extending forward of the bearing axis, this might not be possible with non-concentric operating shafts. The two movable blades (6) and (7) are geared together so that the rear blade (7) moves through approximately three times the angle of the forward blade (6), the optimum ratio depending on the dimensions of the rest of the unit.

The forward blade (6) carries a fairing to minimize the losses in the undeflected position of the blade and the nose shape of the fairing can be designed according to whether straight ahead propulsion or highly deflected thrust is the more important feature. Auxiliary surfaces (11) may be attached to the rear blade (7) parallel to the surface thereof to improve the deflected thrust.—*British Patent No. 1 211 531 issued to Leaper, J. L., Complete Specification published 11 November 1970.*

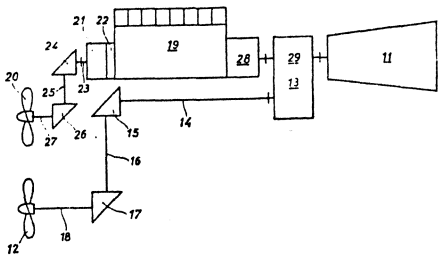
867. Power plant for hydrofoils

The drawing shows a power plant in schematic view (right).

For normal foil-borne operation, the gas turbine (11) is acting as the main power plant for the main propeller (12). The high rotation speed of the gas turbine is reduced to the suitable speed of the main propeller (12) by means of a reduction gear (13). To connect the reduction gear (13) with the main propeller (12) which is normally arranged in hydrofoils in a very low position, a shaft (14), an upper bevel gearing (15), a vertical shaft (16), a lower bevel gearing (17), and a propeller shaft (18) are used.

For operation as displacement boat at low speed, e.g. in harbours or at high swell where foil-borne operation is impossible, or in case of malfunction of the main power plant, a Diesel engine (19) serves as auxiliary power plant, together with an auxiliary propeller (20), which is arranged above the main propeller (12) and is emersed during foil-borne operation. Between Diesel engine (19) and auxiliary propeller (20) a reversing gear (21) for manoeuvring purposes, and a clutch (22) for disengaging the auxiliary propeller (20) from the Diesel engine (19) are arranged. As clutch (22) also shifting clutches belonging to the reversing gear (21) can be used. During foil-borne operation the clutch (22) is disengaged whereby a continuing rotation of the auxiliary propeller (20) is avoided.

For connecting the reversing gear (21) and the clutch (22) respectively, with the auxiliary propeller (20), a shaft (23), an upper bevel gearing (24), a vertical shaft (25), a lower bevel gearing (26) and an auxiliary propeller shaft (27) are provided.



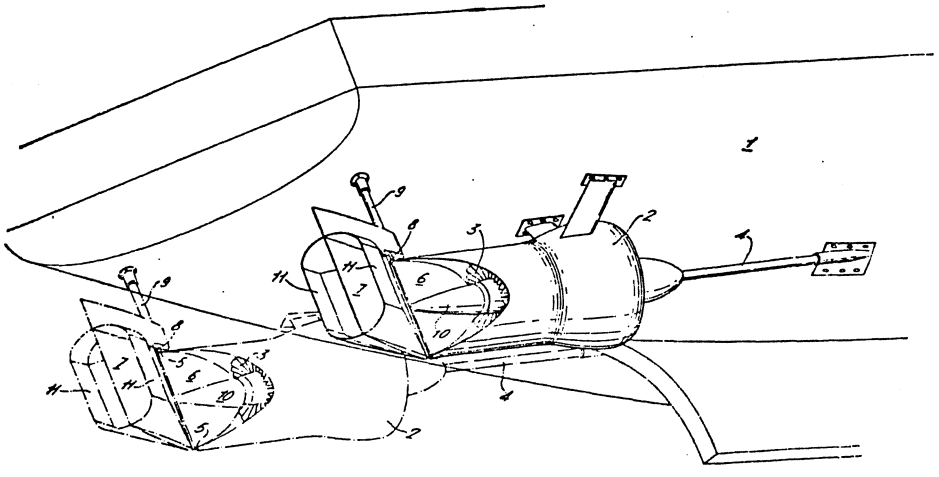
For additional drive of the main propeller (12) by the Diesel engine (19) during foil-borne operation, according to the invention the power of the Diesel engine (19) is taken-off from its front crankshaft-end and drives the main propeller (12), through a variable speed transmission (28), and a multiple input gear (29), combined with the reduction gear (13). By utilizing the additional output of the Diesel engine, the continuous cruising speed of the boat can be increased, or a less powerful gas turbine can be employed. In both cases, the specific weight of the power plant is improved and especially by the favourable fuel consumption of the Diesel engine the efficiency of the entire power plant is increased.

Preferably, for a variable speed transmission (28) a hydrodynamic torque converter is used, by the variable speed ratio of which it is possible to operate the Diesel engine with its full rated speed and nominal output at each rotational speed of the main propeller (12), from which most favourable operating conditions result, especially for supercharged Diesel engines. *British Patent No. 1 234 926 issued to Motoren- und Turbinen-Union Friedrichshafen G.m.b.H. Complete Specification published 9 June 1971.*

868. Improvements in or relating to marine power plant

The present invention refers to a power plant in which two prime movers are geared to a common output shaft by means of a reduction gear containing a respective gear train from each prime mover. The largest reduction takes place in conjunction with a driven wheel on the output shaft. The prime movers are mounted parallel to each other above the shaft in such a manner that the input shafts from the prime movers and the output shaft will be located each at a corner of a triangle, where the layshafts of the intermediate wheels in the gear trains are located at points along two sides of said triangle merging at the point where the output shaft is located.

Fig. 1 shows how the gearbox (5) in a manner known *per se* is carried by beams in the bottom structure of the ship and how the upper part of the box is supported by the hull by means of further beams (10) adapted to carry platforms



17. METAL FINISHING ABSTRACTS

Finishing Publications Ltd.
17, Cranmer Road, Hampton Hill, Middlesex - England

1. PATENT DOCUMENTS ABSTRACTED: DT, FR, GB, JA, SU, US

2. BASIS OF ABSTRACTS: full text, abstract or claims depending upon availability
3. TECHNOLOGICAL FIELDS COVERED: all aspects of metal finishing (metal cleaning, pickling and etching, mechanical treatments, electro- and chemical-polishing, electro-plating, chemical-plating, anodic oxidation, chemical conversion coatings etc.). Int.Cl. C23 and others.
4. ABSTRACT LENGTH: 60 words average
5. BIBLIOGRAPHIC DATA INCLUDED: title; patentee; address; country of publication; kind of document; document number; priority date

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: yes, where relevant
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4, in two columns, type size 8 point

9. ARRANGEMENT: technological field grouping, inside which in numerical order of patent, country by country

10. PATENT ABSTRACTS PUBLISHED IN 1970: 2,700
UP TO 1970: no data

11. PERCENTAGE OF PATENT ABSTRACTS: 50%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: DT-(OS) 1-4 months; FR patents 2-4 months; GB patents 1-3 months; JA patents 3-5 months; SU patents 2-5 months; US patents 2-4 months.
14. PUBLICATION FREQUENCE: bi-monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: in same periodical but patent grouped separately
16. SUBSCRIPTION FEES: periodical £22 (US$ 62.-) per year
Abstracts on filing cards £75 (US$ 22.-) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? when available patents from other countries will also be covered

Metal Finishing Abstracts

Editor: R. Pinner B.Sc., F.I.Corr.T., F.I.M.F. Vol. 13 No. 5 September/October 1971

1. Metal Cleaning

including rinsing . paint stripping

Ultrasonics in the electronics industry

P. Knaggs. *Ind. Finishing (London)*, 1971, 23, No. 278, 12-3.

Use of ultrasonic cleaning for electronic components, including chassis and moving parts using trichlorotrifluoroethane is discussed.

Problems of economic rinsing

J. Kotsch and H. Bahenská. *Galvanotechnik (Saulgau)*, 1971, 62, No. 8, 677-80.

2 separate contributions by these authors, the first dealing with effect of rinse tank size on rinsing efficiency, the second with salt concn. in relation to water re-circulation.

PATENTS

Cleaning composition

Atlas Preservative Co. Ltd. and B. J. Bathlett. Brit. Pat. 1 240 469 (8.8.67).

Composition for cleaning, metal, glass and painted surfaces of pH $\geq$ 7.0 comprises (a) inorganic or organic acid or acid salt, (b) cationic detergent and (c) water insoluble or partly soluble vocalent compound other than (b) and containing O or halogen and at least 1 hydrocarbon chain with at least 4 C atoms.

Solvent degreasing apparatus

R. Posthumus. Brit. Pat. 1 241 293 (16.10.67).

Dewatering fluid

Henkel & Cie., Düsseldorf, Germany. Brit. Pat. 1 242 030 (22.11.68).

Composition for removing aq. liquid layers on metal surfaces comprises water-immiscible organic solvent(s) of density $<$ 0.9 and mixture of mono- and di-2-ethylhexyl-phosphoric acid esters or their neutralisation products with alkylamine with 6-10 C atom chain.

Cleaning aluminium

The Pyrene Co. Ltd., Gt. West Rd., Brentford, Middx. Brit. Pat. 1 243 424 (17.2.69).

Al alloys are cleaned by spraying with aq. soln. of mineral acid and non-ionic stable surfactant at ambient temp., the mineral acid H_3PO_4 1-30, HNO_3 0.15-15 % wt., HNO_3: H_3PO_4 = 0.02-0.6:1 and the surfactant being 0.05-20 % wt. of nonyl-phenol-ethylene oxide condensate. Inhibitor for attack on Fe or steel, e.g., di-n-butyl thiourea may be present as may be a dye. A concentrate containing 10-40 % H_3PO_4 dilutable to give the spray composition is also claimed.

Cleaning aluminium

Western Electric Co. Inc., New York, N.Y., U.S.A. Brit. Pat. 1 245 253 (1.11.67).

Al or Al alloy surface is cleaned by contacting with 1st soln. containing dichromate and sulphate ions. then with 2nd reducing soln. containing reducing agent with oxidation potential of up to 1.3 v. The 1st soln. contains 0.1-10 % wt. Na or K dichromate or 0.1-20 % CrO_3 in each case with 10-50 % wt. conc. H_2SO_4 at 70-150°F for 2-20 min., the 2nd soln. may be 0.1-10 % soln. of $FeSO_4$, Na_2SO_3, $NaHSO_3$ or Na thiosulphate at 70-150°F for up to 1 min. and 2nd soln. being applied within 1 h after the 1st.

Alkaline cleaner

Henkel & Cie., GmbH., 4000 Düsseldorf, Germany. U.S. Pat. 3 586 633 (3.4.69).

Alkaline cleaner containing 0.5-20% wt. additions which prevent hydrolysis and deposit Ca compounds in hard water, comprising a mixture of hydroxy alkane-1,1-diphosphonic acid with aminopolyphosphonic acid in ratio 3 : 1- 1 : 3.

Stabilized solvent

Dynamit-Nobel AG., Troisdorf, Bez. Köln, Germany. U.S. Pat. 3 590 088 (16.1.67).

1,1,1-trichloroethane stabilized with mixture of β-methoxy-propionitrile and 1,4-dioxane.

Cleaner for non-ferrous metal

Enthone Inc., New Haven, Conn. U.S. Pat. 3 595 800 (26.6.68).

Non-Fe metal, e.g., Zn alloy die castings are cleaned to remove, e.g., buffing compound, etc. with composition comprising soaps of amine or alkanolamine salts of fatty or rosin acid and elemental S in water or other liquid.

Dewatering oil

Imperial Chemical Industries Ltd., London. U.S. Pat. 3 597 152 (10.6.64).

Dewatering oil comprising unstable emulsion in water of non-volatile oil containing soil-soluble surface active agents (1-10%) and, optionally, corrosion inhibitor.

Cleaner

Armours and Co., Chicago, Ill., U.S.A. D.O.S. 1 621 537 (22.9.66).

Positive shaft housing ventilation systems of internal combustion engines are cleaned with medium containing engine oil and an active amount of a ketone $R-\overset{\overset{O}{\|}}{C}-R'$.

Cleaning solution

The Dow Chemical Co., Midland. Mich., U.S.A. D.O.S. 1 621 567 (15.9.66).

Cleaning soln. for metal at pH 7-10 containing 0.5-40% wt. ammonium or aminopolycarboxylate metal complex former and 0.01-0.5% wt. thioethylamine of specified formula.

PATENT DATES: An important change

From this issue a change has been made in the dates given with patent abstracts. Henceforth the date given will be the Priority Date of the patent and will normally correspond to whichever is the earlier of the following (a) a provisional patent specification, (b) a complete patent specification or (c) (under the Convention) the date of filing in the country of Priority.

18. ATOMIC PATENT ABSTRACTS
LA PROPRIETE INDUSTRIELLE NUCLEAIRE

Brevatome, 44 avenue du President Kennedy, Paris 16e - France

1. PATENT DOCUMENTS ABSTRACTED: BE, CA, CH, DT, FR, GB, NL, SU, US sometimes other countries also

2. BASIS OF ABSTRACTS: full text or abstract

3. TECHNOLOGICAL FIELDS COVERED: nuclear and related fields, mainly Int. Cl. G21, G01t, H05h, but many others also

4. ABSTRACT LENGTH: 60 - 70 words

5. BIBLIOGRAPHIC DATA INCLUDED: kind of document; country; document number; title; patentee; inventor(s); application date, and number; priority date; country and number; date of document; related documents of patent family

6. CLASSIFICATION SYMBOLS: own classification

7. CHEMICAL FORMULAE: yes
DRAWINGS, DIAGRAMS, etc: whenever drawing is usable and understandable

8. PRINTING ASPECTS: in periodical, on both sides of page, size 21 x 27cm, in two columns

9. ARRANGEMENT: by own classification, then by country in numerical sequence

10. PATENT ABSTRACTS PUBLISHED IN 1970: 10,000 including cross refs.
UP TO 1970: 125,000

11. PERCENTAGE OF PATENT ABSTRACTS: 100%

12. LANGUAGE OF ABSTRACTS: French and English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: minimum 2-3 months

14. PUBLICATION FREQUENCE: twice a month

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: only patent literature abstracts

16. SUBSCRIPTION FEES: for France: 450 FF (US$ 90.-) per year
foreign : 500 FF (US$ 100.-) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? eventually

LA PROPRIETE INDUSTRIELLE NUCLEAIRE
ATOMIC PATENT ABSTRACTS, February 1972

VIc3 CONDUITE ET REGULATION

CONTROL AND REGULATION

BREVET BF 2 065 512 (72/03/20) R
TITRE Dispositif pour l'instrumentation du coeur de reacteurs a eau sous pression. (Device for PWR core instrumentation.)
TITUL. SIEMENS AG
DEPOT 23.10.1970*PVD70/38.408
PRIORITE 24.10.1969*OSD1.953.605
PUBLI. 30.07.1971*

RESUME Dispositif pour l'instrumentation du coeur de reacteurs a eau sous pression comportant des tubes directeurs d'instrumentation rigides, introduits verticalement par le haut dans des elements combustibles et des tiges d'instrumentation traversant le couvercle du reacteur.

Des bras de support en forme de poutre, s'etendant horizontalement dans l'espace compris entre le couvercle du reacteur et l'ossature superieure du coeur, partent des tiges d'instrumentation et au moins deux tubes directeurs d'instrumentation s'etendent vers le bas a la maniere de doigts et servant a recevoir des sondes de mesure stationnaires et/ou mobiles sont fixes a ces bras de support.

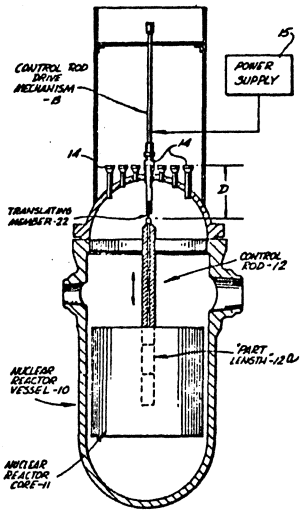
BREVET BF 2 065 732 (72/03/20) R
TITRE Dispositif de commande pour les barres de reglage d'un reacteur nucleaire. (Control device for a nuclear reactor control.)
TITUL. SIEMENS AG
DEPOT 09.10.1970*PVD70/36.633
PRIORITE 11.10.1969*OSD1.951.418
PUBLI. 06.08.1971*

RESUME Dispositif de commande pour les barres de reglage de reacteurs nucleaires, en particulier de reacteurs nucleaires refroidis a l'eau.

En cas d'arret rapide du reacteur nucleaire l'equilibrage de l'ecoulement du fluide de refroidissement s'effectue a l'interieur et a l'exterieur des tiges de commande pour les barres de reglage. La paroi de la tige de commande creuse comporte des percages par lesquels le fluide de refroidissement circule normalement par convection meme a l'arret, cette circulation provoquant des contraintes thermiques supplementaires des systemes de commande, par exemple de dispositifs de levage pas a pas a cliquets ainsi que des indicateurs de position. Grace a un organe d'arret (par exemple un tiroir) monte dans ce trajet d'ecoulement, cette evacuation de la chaleur est interrompue.

BREVET BP 1 251 310 (72/03/20) R
TITRE Control rod drive mechanism.
TITUL. ROYAL INDUSTRIES Inc
INV. BAKER,S.M.
DEPOT 11.05.1970*BPD22.604/70
PRIORITE 16.06.1969*USD 833.377
PUBLI. 27.10.1971*

RESUME In the event of the interruption of the electrical power or the loss of power to the control rod drive mechanism the mechanism is adapted to precisely maintain position of the control rod at the moment of power loss. The inadvertent in or out motion of the control rod is prevented through the provision of a fail safe braking means having positive coupling to the motion translating member of the control mechanism.



BREVET OS 1 614 098 (72/03/20) R
TITRE Hydraulischer antrieb zur notabschaltung von kernreaktoren. -Commande hydraulique pour arreter en cas d'urgence des reacteurs nucleaires.- (Emergency hydraulic shut down system for nuclear reactors.)
TITUL. LICENTIA PATENT VERWALTUNGS GmbH
INV. ACHER,H.
DEPOT 24.11.1967*OSD L57.942
PUBLI. 29.10.1970*

RESUME Commande hydraulique pour arreter en cas d'urgence des reacteurs nucleaires. La chambre de commande est reliee a la chambre de refrigerant par une soupape de retenue, de facon qu'au cas ou une chambre de contre pression s'ouvre contre la pression atmospherique, en cas d'urgence, le refrigerant passe dans la chambre de commande. Une soupape de pression differentielle commandee par la pression du refrigerant ouvre la chambre de contre-pression.

BREVET OS 1 917 590 (72/03/20) R
TITRE Verfahren zum fruehzeitigen erkennen von oertlichen uebertemperaturen in waermeuebertragern vorzugsweise in den brennelementen eines natriumgekuehlten kernreaktors -Procede de detection precise de surchauffe locale des elements combustibles d'un reacteur nucleaire refroidi au sodium.- (Process for the early detection of local overheating of fuel elements in sodium nuclear reactors.)
TITUL. INTERATOM INTERNATIONALE ATOMREAKTORBAU
INV. SCHMIDT,K.
DEPOT 05.04.1969*OSD1.917.590
PUBLI. 15.10.1970*

RESUME Procede de detection precise de surchauffe locale des elements combustibles d'un reacteur nucleaire refroidi au sodium. De nombreux courants de refrigerant provenant de canaux paralleles sont rassembles et leur temperature est mesuree avec au moins un thermo-element. Lorsque la tension de bruit du thermo-element depasse sa valeur normale, un signal est declenche.

BREVET BB 755 198 (72/03/20) C
Voir BF 2 060 424 (71/23/22)

19. NUCLEAR MAGNETIC RESONANCE

Preston Technical Abstracts Co.
P.O. Box 312, Niles, Illinois 60648 - USA

1. PATENT DOCUMENTS ABSTRACTED: all countries, though primarily CA, GB, US

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: nuclear magnetic resonance

4. ABSTRACT LENGTH: 100-300 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; applicant; assignee's name and address; country of publication; kind of document; document number; document date; language

6. CLASSIFICATION SYMBOLS: yes, subject classification

7. CHEMICAL FORMULAE: yes
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size 20 x 26cm, elite type

9. ARRANGEMENT: alphabetical by author inside subject classification

10. PATENT ABSTRACTS PUBLISHED IN 1970: approx. 75
UP TO 1970: approx. 600

11. PERCENTAGE OF PATENT ABSTRACTS: 2-3%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 3 months - 1 year

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: periodical US$ 150.- per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

NUCLEAR MAGNETIC RESONANCE, December 1971

12-71 No. 71-3045 3045

ACETATE-METHYL SIGNALS IN THE NUCLEAR MAGNETIC RESONANCE SPECTRA OF PERACETYLATED DERIVATIVES OF SOME OLIGO- AND POLYSACCHARIDES

S. Hirano (Dept. Chem., Belfer Grad. School Sci., Yeshiva Univ., New York, NY 10033)

Org. Mag. Res. 3, No. 3: 353-60 (June 1971)

PMR data are reptd. for nineteen of the title compds. Chem. shift values of the acetyl-methyl signals are shown to be useful not only in structural identification but also in conformational anal. of oligo- and polysaccharides.

1-29-30-31-33-38-40

12-71 No. 71-3046 3046

STRUCTURE OF MEISENHEIMER COMPLEXES. SHORT-LIVED AND STABLE COMPLEXES FORMED BY THE ACTION OF METHOXIDE IONS ON 2-SUBSTITUTED 4,6-DINITROANISOLES

F. Terrier*, J. C. Halle* and M. P. Simonnin** (*Lab. Physicochem. Solutions; **Lab. Spectrographie, Ecole Nat. Sup. Chim., 11 rue Pierre and Marie Curie, Paris, V^{e}, France)

Org. Mag. Res. 3, No. 3: 361-72 (June 1971) (In French)

PMR data are reptd. for a ser. of the title anisoles and their Meisenheimer complexes and also ^{19}F NMR data for systems where the 2-substituent is F. The chem. shifts depend on the electronic and steric influence of the substituent. In both anisole and complex $^{5}J(F-H)$ is neg. and $^{3}J(F-H)$ positive.

1-2-21-29-30-31-35-39-40-41-131
C

12-71 No. 71-3047 3047

THE FLUORINE MAGNETIC RESONANCE SPECTRUM OF POLY(VINYL FLUORIDE)

F. J. Weigert (Central Res. Dept., Exp. Station, du Pont, Wilmington, DE 19898)

Org. Mag. Res. 3, No. 3: 373-77 (June 1971)

High resolution ^{19}F NMR spectra of poly(vinyl fluoride) are reptd. Measurements were made at 110° with proton noise decoupling. Information about tacticity and sequence can readily be obtained. Assignment of signals to particular fragments was facilitated in the absence of some suitable model compds. by the observation of a linear correlation between ^{13}C chem. shifts in compds. $R-CH_3$ and ^{19}F chem. shifts in the correpsonding R-F.

2-5-21-30-33-39-41-53-93
A

12-71 No. 71-3048 3048

CHEMICAL POLARIZATION OF NUCLEI. PMR SPECTRUM OF DECOMPOSITION PRODUCTS OF DIMETHYL PEROXYDIPHTHALATE

A. V. Kessenikh, S. V. Rykov, E. K. Starostin and G. I. Nikishin (N.D. Zelinsky Inst. Org. Chem., Acad. Sci. USSR, Leninsky 47, Moscow, USSR)

Org. Mag. Res. 3, No. 3: 379-81 (June 1971)

CIDNP signals were observed during thermolysis of o-$(MeOCOC_6H_4COO)_2$. The pattern of polarisation was very different form that found in the thermolysis

20. NUCLEAR SCIENCE ABSTRACTS

US Atomic Energy Commission, Technical Information Center
P.O. Box 62, Oak Ridge, Tennessee 37830 - USA

1. PATENT DOCUMENTS ABSTRACTED: BE, CA, DT, FR, GB, IN, JA, NL, SU, SW, US

2. BASIS OF ABSTRACTS: full text or abstracts of patent documents

3. TECHNOLOGICAL FIELDS COVERED: Nuclear Science

4. ABSTRACT LENGTH: 100 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; inventor(s), patentee, country of publication, kind of document, document number, date of document, date of application

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: yes
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size 8 1/2 x 10 3/4", approx. 7 point (10 point IBM reduced 32%)

9. ARRANGEMENT: grouping according to own classification scheme

10. PATENT ABSTRACTS PUBLISHED IN 1970: 998
UP TO 1970: 2,093 (68), 1,788 (69), 1,176(71) only data

11. PERCENTAGE OF PATENT ABSTRACTS: 2%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 3-6 months

14. PUBLICATION FREQUENCE: twice a month

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: Published abstracts US$ 42.- for USA; $52.50 foreign
Cumulative indexes $34.50 and $ 43.- respectively
Complete NSA tapes for one year $ 1,845.- (includes descriptive information and descriptors)

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? only as number of patents in field increase

PHYSICS (PLASMA AND THERMONUCLEAR)

Confinement and Heating

Refer also to abstracts 8418 and 8437.

8367 PLASMA COMPRESSION APPARATUS. Uleski, Robert E. U. S. Patent 3,614,525. 19 Oct 1971. Filed 14 Jan 1969.

Apparatus to compress a plasma or ionized medium by the use of a generally spherical field produced by a generally spherical winding or field means is described. The current flows generally in the same direction on the conductors that surround an envelope containing the plasma to produce a weak field or null field in the central region of the envelope, with a stronger field surrounding this weak field that effectively compresses the plasma into the central region. (auth)

8368 IMPROVEMENTS IN OR RELATING TO PLASMA CONFINEMENT APPARATUS. Watson, Christopher John Hamilton (to United Kingdom Atomic Energy Authority). British Patent 1,252,906. 10 Nov 1971. Filed 21 Jan 1969.

The principle on which the system described is based is that, using rf fields that are nearly but not exactly in resonance with the ion cyclotron frequency, there is a substantially smaller transfer of energy to the plasma. On a single-particle model such nearly resonant fields lead to a reversible increase in the transverse energy of the ions as they approach resonance, but this energy is returned to the rf field as the particle leaves the resonance zone, after reflection by the magnetic field gradient. The apparatus described comprises a vessel for containing low-pressure gas, means for forming in or introducing into the vessel a plasma, and means for forming a static magnetic field for confining the plasma. This magnetic field has one or more loss regions within which the lines of force leave the contaminant vessel, with means for localizing in these regions rf electromagnetic radiation, the frequency of which is greater than the peak ion cyclotron frequency and near to but not exactly in resonance with the ion cyclotron frequency, the electromagnetic radiation tending to reflect back into the confined plasma ions moving out of the static magnetic field through the loss regions. (UK)

8369 NEW TYPES OF RESONANCE SYSTEMS FOR HIGH-FREQUENCY HEATING OF PLASMA. Longinov, A. V.; Nizhnik, G. Ya. Vestn. Khar'kov. Politekh. Inst.; No. 50, 105-10 (1970). (In Russian).

Systems are described for the introduction of high-frequency energy into a plasma, significantly increasing the power transmitted. The introduction coil is fashioned into two coils composed of sectors; the sectors of one coil are connected with the sectors of the other coil through condensers, and the azimuthal gap of one group of sectors faces the center of a sector of the other group. A formula is given for the resonance frequency of this arrangement. The distribution of the high-frequency magnetic field was plotted along the axis of the system. The system as described makes possible the use of hundreds and thousands of megawatts for resonant heating. (K.S.W.)

8370 GENERAL EQUATIONS OF LASER HEATING OF D–T PLASMA, THE HEAT OF THERMONUCLEAR FUSION BEING TAKEN INTO ACCOUNT. Kaliski, S. (Inst. of Fundamental Tech. Problems, Warsaw). Bull. Acad. Pol. Sci., Ser. Sci. Tech.; 19: No. 6, 485-91(1971).

General equations (nonaveraged) of laser heating and D–T plasma expansion are derived; generation of heat during the process of thermonuclear fusion is taken into consideration. The problem set consists in formulation of a nonlinear system of partial equations with retarded argument, which depends in a nonlinear manner on the solutions. The system of equations considers the effect of electron thermal conduction, bremsstrahlung shock waves, and also an effect of heat generated by thermonuclear fusion, etc. The general system of equations is extremely complex. In particular cases, in dependence on the numerical relations among the parameters of the problem, the system of equations may be sometimes greatly simplified. Particular cases of solutions are considered separately. (auth)

8371 ANALYSIS OF HEATING AND CONFINEMENT OF PLASMAS BY RADIO-FREQUENCY ANTENNA SYSTEMS. Arendt, Paul Nelson. Columbus, Ohio; Ohio State Univ. (1971). 126p. University Microfilms Order No. 71-27,417.

Thesis.

An investigation of radio-frequency heating and confinement of plasmas was made using numerical analytical techniques. Three rf antenna systems designed provided a stable energy-limited plasma in a radially varying external magnetic field. When small-angle Coulomb scatterings with ion densities of 10^{14} cm^{-3} were introduced into the calculations, no significant changes in the overall heating and confinement properties of the systems occurred. Charge separation between portions of the plasma cross section was essentially nonexistent; the scattering and diffusion of ions from the plasma region was nearly eliminated. The collisional energy distribution of the plasma was obtained and used to calculate the self magnetic field and the fusion power density of the plasma. The fusion density was found to be comparable to that of fission reactors at densities of 10^{14} cm^{-3}. (Diss. Abstr. Int., B)

8372 INVESTIGATION OF CONDITIONS FOR HEATING DENSE PLASMA FORMED BY INJECTING ELECTRON BEAMS INTO MAGNETIC TRAPS. Bredikhin, M. Yu.; Maslov, A. I.; Skibenko, A. I.; Skibenko, E. I.; Yuferov, V. B. (Physical-Technical Inst., Kharkov. Kharkov State Univ.). Ukr. Fiz. Zh. (Russ. Ed.); 16: No. 7, 1180-5(Jul 1971). (In Russian).

The dense plasma was formed by injecting a high-energy electron beam into a magnetic trap. The heating efficiency depends upon the magnetic field magnitude, cross velocity of the electron beam, and ratio of electron Langmuir and electron Larmor frequencies. (auth)

Diagnostics

8373 STAGNATION PROBE MEASUREMENTS IN FLOWING PLASMAS. Clements, R. M. (Univ. of Victoria, British Columbia); Smy, P. R. J. Phys., D (London); 4: No. 11, 1687-94(Nov 1971).

Measurements of the ion current to a circular flat stagnation probe were performed in a laboratory flame of known ionization density. The measurements were performed over an ionization density range from 10^{15} to 10^{18} m^{-3}, probe bias voltages from 5 to 400 V and probe/flame velocities from 3 to 19 m s^{-1}. The measurements show good agreement with the calculated sheath/convection currents: $I = (VR)^{0.8}(n_e e u_\infty)^{0.6}\pi(6\epsilon_0\mu)^{0.4}$ (mks) for the case where the sheath is thick compared with the probe, and $I = (72R^8 n_e{}^3 e^3 u_\infty{}^3 V^2 \mu\epsilon_0\pi\alpha^{-3})^{0.25}$ (mks) for the case where the sheath is thin compared with the probe. Here R is the radius of the flat conduction face of the probe, n_e the ionization density, e the electronic charge, μ the ion mobility, u_∞ the plasma flow velocity relative to the probe, far from the probe, V the probe bias voltage, ϵ_0 the permittivity of free space, and α the radius of the insulator surrounding the conducting face of the probe. (auth) (UK)

8374 COMPARISON OF PLASMA-DENSITY MEASUREMENTS MADE WITH A DOUBLE PROBE, A RESONANT CAVITY TECHNIQUE, AND AN UPPER HYBRID FREQUENCY METHOD. Keen, B. E.; Fletcher, W. H. W. (United Kingdom Atomic Energy Authority, Abingdon, Eng.). J. Phys., D (London); 4: No. 11, 1695-1701(Nov 1971).

Plasma density measurements taken simultaneously on a plasma column by three different techniques are reported. The diagnostic methods used were a double-probe method, a resonant microwave-cavity technique, and an upper-hybrid-frequency method. The density range covered was 10^9 to 10^{11} cm^{-3}, and the plasmas employed were rf discharges in the lower-density range and the positive column of arc discharges in the higher-density range, each running in hydrogen, helium, neon, or argon gas. It is shown that, if sufficient care is taken and corrections are applied, reliable results can be obtained. Further, reasonably good agreement (±25%) can be achieved between the three methods under these circumstances. (auth)

8375 THERMAL BOUNDARY-LAYER EFFECTS ON LANGMUIR PROBE MEASUREMENTS IN FLOWING GASES. Pert, G. J. (Univ. of Hull, Eng.). J. Phys., D (London); 4: No. 11, 1702-9(Nov 1971).

The flow of a weakly ionized gas past a planar probe is considered. In order to assess the errors incurred using the standard uniform-electron-temperature models, calculations are made of the electron temperature in the boundary layer under conditions of subsonic low-temperature plasma flow typical of flames. It is found that, for the usual experimental case of small currents, the electron temperature is only uniform if the parameter $\alpha/a \lesssim 0.2$, and is equal to the wall temperature if $\alpha/a \gtrsim 10$. The parameter α^2 is equal to the ratio of the gas flow time past the probe to the characteristic electron cooling time, and a is the reduced gas temperature gradient at the wall. (auth)

21. ORGANOMETALLIC COMPOUNDS

R.H. Chandler Ltd.
P.O. Box 55, Braintree, Essex CM7 6HD - England

1. PATENT DOCUMENTS ABSTRACTED: CA, CH, DL, GB, OE, US patents; FR applications, sole publication and patents; DT, NL applications
2. BASIS OF ABSTRACTS: full text
3. TECHNOLOGICAL FIELDS COVERED: Int. Cl. sections B and C
4. ABSTRACT LENGTH: 50 words
5. BIBLIOGRAPHIC DATA INCLUDED: title; country of publication; kind of document; document number; applicant; application date; prior country
6. CLASSIFICATION SYMBOLS: no
7. CHEMICAL FORMULAE: yes
   DRAWINGS, DIAGRAMS, etc: no
8. PRINTING ASPECTS: in periodical, on both sides of page, size 21.5 x 27.5cm, typewriter small size typefaces
9. ARRANGEMENT: subject grouping only
10. PATENT ABSTRACTS PUBLISHED IN 1970: approx. 5,000
    UP TO 1970: no data
11. PERCENTAGE OF PATENT ABSTRACTS: no data
12. LANGUAGE OF ABSTRACTS: English
13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: for GB 1-4 weeks; for other countries no definite information available
14. PUBLICATION FREQUENCE: monthly
15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together
16. SUBSCRIPTION FEES: US$ 60.- per year
17. ENTRY OR MEMBERSHIP FEE REQUIRED? no
18. COVERAGE TO BE INCREASED IN FUTURE? no

ORGANOMETALLIC COMPOUNDS, May 1971

- 300 -

CATALYSTS FOR DIENE POLYMERISATION AND OTHER ADDITION POLYMERISATIONS

2756. DIALLYLBUTENYL RHODIUM.
J. Krepelka, et al. Coll. Czech. Chemical Comm., December 1970, 35, 3800-01.
The catalytic activity of this Rh complex on the polymerisation of butadiene was investigated.

2757. COBALT SALTS IN ELECTROCHEMICAL BUTADIENE DIMERISATION.
K. Issleib, et al. Z. Anorganische Chemie, January 1971, 380, 1-6.
The cathodic reduction of organic Co complexes (bromide or acetylacetonate plus phosphine, phosphite, arsine, dipyridyl or salicylaldehyde) in the presence of butadiene gives linear diene oligomers. The first two ligands to do not favour linear dimerisation.

2758. DIENE POLYMERISATION CATALYST.
FR 2,030,554. Solvay et Cie. A:9.9.69.
Butadiene is polymerised in presence of a Group IV to VI metal compound such as $TiCl_4$ supported on an oxygenated compound of a bivalent metal such as Mg(OH)Cl and a mixture of AlR_3 and AlR_aI_b such as $AlEt_3$ and $AlEt_2I$.

2759. DIENE POLYMERISATION CATALYST.
FR 2,030,561. Solvay et Cie. A:23.9.69.
Butadiene is polymerised in presence of a Group VIII metal complex such as the complex of Co or Ni dichloride with poly-4-vinylpyridine or Co acetylacetonate reacted with a bivalent metal compound such as $Mg(OEt)_2$. An activator such as $AlEt_2Cl$ is also present.

2760. BUTADIENE POLYMERISATION REGULATOR.
FR 2,032,282. Japanese Geon Co. A:28.11.69; P:(-); C:29.11.68 (JA).
The molecular weight of a cis-1,4-polybutadiene made by use of a catalyst such as a mixture of Co octoate, Et_2AlCl and water is regulated by including in the reaction system a small amount of a 2,5-norbornadiene.

2761. ISOPRENE POLYMERISATION CATALYST.
FR 2,033,127. Kurashiki Rayon. A:27.2.70; P:(-); C:1.3.69, 13.8.69 (JA).
Isoprene is converted to the predominantly cis-1,4 polymer in an inert solvent in presence of a catalytic mixture of (a) $TiCl_4$ (b) SnR_aH_b, e.g. $Sn(nBu)_3H$ and (c) $AlBr_3$ or AlI_3.

2762. CATALYST FOR CONTINUOUS PRODUCTION OF CYCLODODECATRIENE.
DT 2,026,043. Du Pont. A:27.5.70; P:3.12.70; C:29.5.69 (US).
Butadiene is trimerised in presence of (a) AlR_aX_b, particularly $Et_3Al_2Cl_3$ (b) TiR_4, e.g. $TiCl_4$ and (c) an organic promoter such as acetaldehyde or acetone.

2763. METAL-CONTAINING POLYMERS.
DT 2,003,294. British Petroleum. A:26.1.70; P:3.12.70; C:30.1.69 (GB).
A phosphour-containing polymer is obtained by reacting some of the OH groups of polyvinylalcohol with $PhPCl_2$, and the product is then given a metal content by reaction with a compound of a Group VIII metal or other transition metal such as Co, Rh, Re, Pt or Mo. The complex is used as catalyst for olefine reactions or possibly as non-flamm materials or pigments.

22. CONTINENTAL PAINT AND RESIN NEWS

R.H. Chandler Ltd.
P.O. Box 55, Braintree, Essex CM7 6HD - England

1. PATENT DOCUMENTS ABSTRACTED: CA, CH, DL, GB, OE, US patents; FR applications, sole publications and patents; DT, NL applications
2. BASIS OF ABSTRACTS: full text
3. TECHNOLOGICAL FIELDS COVERED: Int. Cl. Sections B and C
4. ABSTRACT LENGTH: up to 250 words
5. BIBLIOGRAPHIC DATA INCLUDED: title; country of publication; kind of document; document number; applicant; application date; document date; priority application date; priority country; priority application number
6. CLASSIFICATION SYMBOLS: no
7. CHEMICAL FORMULAE: yes
   DRAWINGS, DIAGRAMS, etc: no
8. PRINTING ASPECTS: in periodical, on both sides of page, size 16.5 x 20cm, reduced typewritten text
9. ARRANGEMENT: subject grouping only
10. PATENT ABSTRACTS PUBLISHED IN 1970: approx. 200
    UP TO 1970: no data
11. PERCENTAGE OF PATENT ABSTRACTS: no data
12. LANGUAGE OF ABSTRACTS: English
13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: for GB 1-4 weeks; for other countries no definite information available
14. PUBLICATION FREQUENCE: monthly
15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together
16. SUBSCRIPTION FEES: US$ 10.- per year
17. ENTRY OR MEMBERSHIP FEE REQUIRED? no
18. COVERAGE TO BE INCREASED IN FUTURE? no

CONTINENTAL PAINT AND RESIN NEWS, Nov. 1971

- 14 -

A typical batch for polymerisation contains 180 parts hexamethoxymelamine, 85 parts acrylic acid, 186 parts ethylhexyl acrylate, 149 parts vinyl toluene, 162 parts ethylene glycol monobutyl ether and 38 parts catalyst. The products give excellent water-thinnable enamels for electrophoretic application, e.g. stoving for 30 mins at 160°C. (Also East German 83,838).

POLYOL-WETTED NITROCELLULOSE GRAINS.
Netherlands 71.00265.
French Minister of Munitions. A: 8.1.71; P.13.7.71; C.9.1.70 (France) as 350.

Polyurethane lacquers are given improved properties by the introduction of nitrocellulose. One difficulty is the contamination of the lacquer by the alcohol or plasticiser damping agent. This disadvantage is now overcome by the use of a polyol as damping agent, which can itself be incorporated in the polyurethane lacquer. The preferred polyols are polyoxypropylene glycols with a molecular weight of 800-3000, polyesters and hydroxylic polyethers.

TACK-FREE POLYURETHANE COATINGS.
Netherlands 71.01433.
Farbenfabriken Bayer AG. A:3.2.71; P.9.8.71; C.5.2.70(Germany) as 5115.

Tack-free coatings are obtained when the normal coating composition additionally contains a solvent which (a) has at least one 8-20 C alkyl group, (b) at least one tertiary amino group and (c) at least one ester or urethane group or its hydroxyl group precursor. A typical solvent is obtained from dimethyl ethanolamine and dodecyl isocyanate.

NON-AIR-INHIBITED POLYESTERS.
German 1,956,239. Badische Anilin-Soda-Fabrik AG. A: 8.11.69 as 56,239; P: 13.5.71.

The inclusion of a nitro-group containing compound gives a formulation which will form a tack-free surface on electron-beam curing even in the presence of air. In an example, the polyester is made by reaction of 1 mol maleic anhydride, 0.45 mol. phthalic anhydride and 0.05 mol. (nitro)-phthalic anhydride with the equivalent amount of propylene glycol.

EASILY DISPERSIBLE INORGANIC PIGMENTS.
Netherlands. 71.00526. Farbenfabriken Bayer AG. A: 14.1.71; C: 14.1.70 (Germany) as 1,381.

Titanium dioxide and other inorganic pigments are easier to disperse in organic media when they are coated with a non-drying alkyd containing at least 25% organic fatty acids, triols or higher polyols with 6 or more C atoms and an O atom to C atom ratio of not more than 0.7. A typical alkyd is obtained from 1280 parts first run fatty acids, 2050 parts hexametriol, 1300 parts phthalic anhydride and 118 parts maleic anhydride.

23. PAINT AND RESIN PATENTS

R.H. Chandler Ltd.
P.O. Box 55, Braintree, Essex CM 7 6HD - England

1. PATENT DOCUMENTS ABSTRACTED: CA, CH, DL, GB, OE, US patents, FR applications, sole publications and patents DT, NL applications
2. BASIS OF ABSTRACTS: full text
3. TECHNOLOGICAL FIELDS COVERED: Int. Cl. Sections B and C
4. ABSTRACT LENGTH: up to 250 words
5. BIBLIOGRAPHIC DATA INCLUDED: title; country of publication; kind of document; document number; applicant; application date; document date; priority application date; priority country; priority number
6. CLASSIFICATION SYMBOLS: no
7. CHEMICAL FORMULAE: yes
   DRAWINGS, DIAGRAMS, etc: no
8. PRINTING ASPECTS: in periodical, on both sides of page, size 21.5 x 27.5cm, typewriter small size type faces
9. ARRANGEMENT: subject grouping only
10. PATENT ABSTRACTS PUBLISHED IN 1970: approx. 1,200
    UP TO 1970: no data
11. PERCENTAGE OF PATENT ABSTRACTS: 100%
12. LANGUAGE OF ABSTRACTS: English
13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: for GB 1-4 weeks, for other countries no definite information available
14. PUBLICATION FREQUENCE: monthly
15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: only patent literature
16. SUBSCRIPTION FEES: US$ 42.- per year
17. ENTRY OR MEMBERSHIP FEE REQUIRED? no
18. COVERAGE TO BE INCREASED IN FUTURE? no

PAINT AND RESIN PATENTS, June 1971
- 140 -

CONVERSION COATINGS

692. ZINC PHOSPHATING PROCESS.
FR 2,033,717. Soc.Continentale Parker. A:31.12.69; P:4.12.70; C:7.3.69 (US) as 805,364.

A thin protective surface layer is produced on electrogalvanised ferrous metals by immersion in an aqueous solution of acid zinc phosphate together with 0.001-0.02 wt.% of nitrate ions.

693. PHOSPHINYL CONVERSION COATING AGENT.
NL 70.12107. American Cyanamid Co. A:17.8.70; P:8.3.71; C:4.9.69 (US) as 855,399 and 20.1.70 as 4398.

Excellent corrosion resistance and paint adhesion are achieved with metal surfaces treated with compounds of formula RR'(A)PO, where A is CH_2COR'', R and R' are each phenyl, 1-4C alkyl, 1-4C alkoxy, benzyl, vinyl, substituted alkyl, alkoxy or benzyl with NH_2, OH, SH or polymerisable alkenyl substituents; R'' is similar to R or NH_2, OH, SH, etc. Compounds mentioned in the examples include 1-(dimethyl-, diphenyl-, dibenzyl- and benzyl methyl-phosphinyl)-propanones and 2-(dimethoxyphosphinyl)-acetamide.

694. LEUCOPHOSPHITE GROWTH DURING PHOSPHATING.
DT 1,933,096. Ferro-Chemie Dr.Erich Kussman KG. A:30.6.69 as 33,096; P:14.1.71; Add to 1,274,419.

The parent patent describes the production of phosphate layers on metal surfaces which have the leucophosphite form. This type of coating is now sealed by the application of a primer or gel material containing phosphoric acid, metal, metal borate and optionally an oxidising agent.

695. MANGANESE PHOSPHATE LUBRICANT COATING.
US 3,562,023. Whitefield Chemical Co.Inc. A:15.5.68 as 729,354; P:9.2.71.

A manganese phosphating bath contains limited amounts of certain soluble molybdates to provide a manganese phosphate-molybdate coating on any metal surface, especially disc-type limited slip differentials. The bath consists essentially of manganese phosphate and water and contains 0.001-0.05% molybdenum, based on total solution. The total acid point to free acid point ratio is 4.5-10:1, the solution temperature is 175-225°F and the pH of the solution is less than about 4.0.

696. PHOSPHATED AND PLATED STEEL SHEET.
BP 1,229,932. Nippon Steel Corp. A:16.7.68; P:28.4.71; C:24.7.67 (JA) as 47,494.

A phosphate-treated steel sheet is first plated with a layer of nickel-zinc alloy, either above or on top of a zinc layer, the thickness of the layer of nickel-zinc alloy being between 0.5 and 10μ. A phosphate layer is formed on the surface of the plated layer or layers.

697. BAKED CHROMATE COATING ON FERROUS METALS.
US 3,563,811. Diamond Shamrock Corp. A:4.6.68 as 734,242; P:16.2.71.

Ferrous surfaces are chromated and then heated at 325-550°F to bake the acidic coating. The coating solution contains (a) 4-8% of chromic acid or a sodium or potassium salt to supply at least about 4% chromic acid and (b) 0.1-8% of hydrochloric, sulphuric, nitric or phosphoric acid or their sodium and potassium salts.

BORIC ACID IN ZINC PHOSPHATING BATHS. CH 502,443. Metallges. See 152/68.
PHOSPHATING STEEL WITH ENRICHED COATINGS. CA 861,492. Inst.Recherche Siderurgie. See 928/69.
ELECTROCOATING WITH A SPECIFIED ELECTRICAL CONDUCTIVITY. FR 1,602,184. E.C.M. See 1148/69.
ROLLER COATING PHOSPHATING PROCESS. CA 862,701. Amchem. See 1390/69.
SOLVENT CHROMATING BATHS. BP 1,229,727. Du Pont. See 707/70.

24. WORLD SURFACE COATINGS ABSTRACTS (PAINT)
(ex-Review of Current Literature on the Paint and Allied Industries, prior to Jan. 1969)
Paint Research Association
Waldegrave Road, Teddington, Middlesex TW U 8LD - England

1. PATENT DOCUMENTS ABSTRACTED: 20 countries (BE, CA, CH, DT, DL, FR, GB, IT, JA, NL, SU, US, etc.)

2. BASIS OF ABSTRACTS: usually abstract, sometimes full text

3. TECHNOLOGICAL FIELDS COVERED: paint and allied industries

4. ABSTRACT LENGTH: 50 - 100 words

5. BIBLIOGRAPHIC DATA INCLUDED: patentee; title; kind of document; country of publication; document number; source of abstract;

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: yes, sometimes
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size A5

9. ARRANGEMENT: by subject groups

10. PATENT ABSTRACTS PUBLISHED IN 1970: about 3,000
UP TO 1970: 15,000 (estimated)

11. PERCENTAGE OF PATENT ABSTRACTS: 30%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: about 6 months

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: £40 (US$ 100.-) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

Note - data extracted by the International Bureau from documentation received.

WORLD SURFACE COATINGS ABSTRACTS, December 1971

10b Solvent-thinned paints

PATENTS

1 AJINOMOTO CO. **Process for preparing films of poly-γ-methyl glutamate modified with urethane prepolymer having terminal isocyanate groups.** *U.S. 3,585,161: Off. Gaz. 1971,* **887** *No 3, 924-5.*
A soln. of poly-γ-methyl glutamate in a chlorinated aliphatic hydrocarbon, when modified by the addition of a urethane prepolymer of mol. wt. of 700–5000 having 2 terminal isocyanate groups, forms a dope from which films and coatings with mechanical properties desirable in artificial leather may be prepared.

2 ANDERSON, K. O. **Flame-retardant paint.** *U.S. 3,591,545: Off. Gaz. 1971,* **888** *No 1, 270.*
A flame-retarding paint composition suitable for outdoor or indoor use is formulated which may be applied in one step to provide a tough, durable coat and which is also resistant to weathering. The paint composition comprises a blend of vinyl chloride polymers, perchloroethylene, chlorinated hydrocarbons, alkyl aryl phosphate, asbestos, mica, antimony oxide/silicon dioxide mix, TiO_2, basic lead carbonate, Ba phosphate, $BaSO_4$ and mineral spirits.

3 DU PONT DE NEMOURS & CO. **Coating composition.** *Brit. 1,236,128.*
A coating composition comprises 5–45% by wt. of a film-forming material which consists of (*a*) 40–60% of an acrylic oxazoline-containing polymer comprising units of (1) 30–70% based on the wt. of the polymer of methyl methacrylate, (2) < 35% of an ester of an α,β-olefinically unsatd. monocarboxylic acid and a C_{2-12} saturated aliphatic monohydric alcohol, (3) < 10% of acrylonitrile and (4) 15–35% of an oxazoline compound of given formula; (*b*) 40–60% of cellulose acetate butyrate that has a viscosity of 0·5–20 sec. at 25°C. measured according to ASTM D-1343-56 and a butyryl content of 30–55% by wt, and (*c*) 0–10% of an organic plasticiser which is either a polymeric plasticiser, a monomeric plasticiser or a mixture of both; where the film-forming material is in soln. in a volatile organic liquid which includes at least one solvent for the film-forming material. The composition is suitable for automobile finishing or refinishing.

4 HÜLS, CHEMISCHE WERKE **Linear polyester for coating compositions.** *Ger. 1,805,182: Ger. Pat. Rept. 1971,* S *No 24, Gp G, 1.*
A coating agent combining good elasticity with great hardness comprises an organic solvent and a binder of 50–10% aminoplasts and 70–90% linear polyesters obtained by the esterification of mixtures of (I) and (II), (I) consisting of 70–30 mol. % ethylene glycol and 30–70 mol. % propane-1,2-diol and (II) consisting of 91–33% cycloaliphatic dicarboxylic acid where the COOH groups are in 1,2- or 1,3-positions or aromatic dicarboxylic acids and/or their derivatives, and 9–67% 4–12 C aliphatic dicarboxylic acid (derivatives).

5 IMPERIAL CHEMICAL INDUSTRIES **Organopolysiloxane compositions.** *Brit. 1,240,511, addn. to 1,152,251 (WSCA 1969, 1117$_3$).*
A composition comprises 100 pts. by wt. of a diorganopolysiloxane having at least 2 OH groups attached to different Si atoms per molecule and with a viscosity of ⩽ 3000 cSt. at 25°C, 1–20 pts. of an organohydrogen polysiloxane with a viscosity of ⩾ 1000 cSt. at 25°C. and containing at least one Si-bonded H atom for every 3 Si atoms, 1–20 pts. of an aminoalkoxy Si compound and 5–20 pts. of a Sn compound of the general formula $YO(R_2SnO)_nY$ where R is an alkyl group having ⩾ 20 C atoms, Y is R′R″C=N– or R‴ where R′ is a hydrocarbyl group or H and R″ and R‴ are hydrocarbyl groups, and *n* is 1–4, in an organic solvent. The composition cures rapidly to a hard, abrasion-resistant film and may be used for the high-speed coating of paper, and for coating other metallic and non-metallic substrates.

6 STANDARD OIL CO. (CHICAGO) **Process for preparing polymer solution from aromatic anhydrides and isocyanates.** *U.S. 3,592,789: Off. Gaz. 1971,* **888** *No 2, 563.*
This invention relates to the production of insulating and protective coatings for electric wire and other surfaces. More particularly, it relates to the preparation of coating solns. wherein aromatic anhydrides and polyisocyanate are dissolved in a polar solvent boiling at > 300°F. at a temp. of 150-300°F. The coating soln. is then cooled to room temp. and the resulting soln. is applied to metal surfaces and baked to adherent, tough films useful as electrical and missile coatings.

25. PHOTOGRAPHIC ABSTRACTS

The Royal Photographic Society of Great Britain
14 South Audley Street, London W1Y 5DP - England

1. PATENT DOCUMENTS ABSTRACTED: GB, US

2. BASIS OF ABSTRACTS: usually full text

3. TECHNOLOGICAL FIELDS COVERED: photography - UDC class 770

4. ABSTRACT LENGTH: 60-80 words

5. BIBLIOGRAPHIC DATA INCLUDED: modified title; inventor; assignee; country of publication; kind of document; document number; priority country and priority date, otherwise application filing date; corresponding GB and US patent numbers

6. CLASSIFICATION SYMBOLS: UDC

7. CHEMICAL FORMULAE: yes, if linear
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4, in two columns, type size 10 point Times Roman

9. ARRANGEMENT: UDC classification

10. PATENT ABSTRACTS PUBLISHED IN 1970: about 1,250
UP TO 1970: about 30,000

11. PERCENTAGE OF PATENT ABSTRACTS: 40%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 20-40 weeks

14. PUBLICATION FREQUENCE: bi-monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same issue

16. SUBSCRIPTION FEES: periodical £20 (US$ 52.-) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

2370P 772.932
Photoelectrical Printing. E. P. DAMM [INTERNATIONAL BUSINESS MACHINES CORP.]. *U.S.P.* 3,560,204, Nov. 7, 1966.—The charged surface of a zinc oxide coated web of paper is exposed to a light pattern and then passes between a ground electrode and a smooth, charged, ink-bearing conductive drum. P.S.

2371P 772.933
Electrolytic Electrophotography. Y. TAMAI and M. TAKIMOTO [FUJI PHOTO FILM CO.]. *U.S.P.* 3,565,613 [Japan, Dec. 7, 1966].—Corresponds to *B.P.* 1,202,409 (*Photogr. Abs.*, 1971, No. 445P). P.S.

2372P 772.933 : 778.6
Photoelectrophoretic Imaging Pigments. T. B. JONES [XEROX CORP.]. *U.S.P.* 3,574,182, Feb. 1, 1967.—Corresponds to *B.P.* 1,197,374 (*Photogr. Abs.*, 1971, No. 446P). P.S.

2373P 772.932 : 77.023.4
Electrophotographic Developing Process. S. HONJO and M. SATO [FUJI PHOTO FILM CO.]. *U.S.P.* 3,560,203 [Japan, Nov. 2, 1966].—Reversal development is carried out in a liquid developer under influence of an external voltage which is varied with the existing charge so as to avoid fogging. P.S.

2374P 772.932 : 771.35
Optical System for Electrophotography. R. COLLINS [OMAL GROUP LTD.]. *B.P.* 1,229,048, Aug. 1, 1969.—An adjustable system adapted for projection of an original image on to a copy sheet in a wet-type electrostatic copier comprises a lens assembly for projection and a mirror to provide lateral inversion of the image. P.S.

2375P 772.932 : 771.42
Electrostatic Charging Apparatus. W. SALGER [LUMOPRINT ZINDLER K. G.]. *U.S.P.* 3,566,223 [U.S.A., Dec. 26, 1967].—There is described a method of mounting the two parallel corona wire sections in a charging device for an electrostatic copier. P.S.

2376P 772.932 : 771.42
Charging Apparatus for Electrophotography. ADDRESSOGRAPH-MULTIGRAPH CORP. *B.P.* 1,228,987 [U.S.A., July, 28, 1967].—Roller charging apparatus includes a novel semi-conductive ceramic roller of given composition, *e.g.*, alumina containing a minor proportion of iron oxide and fired at about 1000°C. P.S.

2377P 772.932 : 771.42
Charging Xerographic Images. I. E. SMITH and K. A. METCALFE [COMMONWEALTH OF AUSTRALIA]. *U.S.P.* 3,555,378 [Australia, May 15, 1967].—Corresponds to *B.P.* 1,211,422 (*Photogr. Abs.*, 1971, No. 946P). P.S.

2378P 772.932 : 771.42
Cleaning Apparatus for Xerographic Copiers. RANK-XEROX LTD. *B.P.* 1,225,287 [U.S.A., June 20, 1967].—Corresponds to *U.S.P.* 3,526,457 (*Photogr. Abs.*, 1971, No. 939P). P.S.

2379P 772.932 : 771.42
Electrographic Apparatus. W. A. LLOYD [VARIAN ASSOCIATES]. *B.P.* 1,228,972/74 [U.S.A., Aug. 21, 1967].—Means are described for applying ink through a channel to the recording web in an electrographic recorder. P.S.

2380P 772.932 : 771.42
Light Reflectors for Electrophotographic Copying Machines. GAF CORP. *B.P.* 1,224,191 [U.S.A., March 15, 1967].—Corresponds to *U.S.P.* 3,535,035 (*Photogr. Abs.*, 1971, No. 948P). P.S.

2381P 772.932 : 771.42
Electrophotographic Charging Apparatus. RANK-XEROX LTD. *B.P.* 1,214,217 [Japan, July 19, 1967].—A charge placed by corona means on a flexible belt and photosensitive to the light of the corona discharge, is later transferred to the photoconductive layer by contact. P.S.

2382P 772.932 : 771.42
Electrophotographic Exposure Means. M. OGAWA, Y. YAMANOI and I. IIZAKA [MINOLTA CAMERA K.K.]. *U.S.P.* 3,567,344 [Japan, Feb. 15, 1968].—An illuminating device is described for projecting a uniformly bright image of an original on to the electrophotographic sheet. The image is formed longitudinally on an exposure slit at right angles to the scanning direction. P.S.

2383P 772.932 : 771.42
Xerographic Development Apparatus. J. MAKSYMIAK XEROX CORP.]. *U.S.P.* 3,572,289, Sept. 23, 1968.—Particulars are given of a magnetic brush development system including a number of driven magnetic rollers for transporting a granular two-component developer. P.S.

2384P 772.932 : 771.42
Electrostatic Image Development. G. A. MARLOR, J. A. DAHLQUIST and E. G. CIRIMELE [VARIAN ASSOCIATES]. *U.S.P.* 3,570,456, Feb. 11, 1969.—An inclined fine-mesh screen of conductive material supports the latent imaged surface and is connected with a dispenser of liquid toner dispersion. P.S.

2385P 772.932 : 771.42
Electrophotographic Copier. T. KUSHIMA [MINOLTA CAMERA K.K.]. *U.S.P.* 3,564,239, Aug. 30, 1968.—In a copying machine in which the original passes through concurrently with the photoconductive sheet, means are provided for varying the corona voltage in accordance with the paper speed. P.S.

2386P 772.932 : 771.42
Handling Electrophotographic Transfer Sheets. R. K. LEINBACH and T. SWANKE [EASTMAN KODAK CO.]. *B.P.* 1,223,696 [U.S.A., March 8, 1967].—Corresponds to *U.S.P.* 3,508,824 (*Photogr. Abs.*, 1970, No. 2998P). P.S.

26. PLATINUM METALS REVIEW

Johnson, Matthey & Co., Ltd.
78 Hatton Garden, London EClP lAE - England

1. PATENT DOCUMENTS ABSTRACTED: patents and like documents from DT, FR, GB, NL, US

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: platinum group metals - applications in chemical and electronics industry and in metallurgy

4. ABSTRACT LENGTH: 35 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; patentee; country of publication; kind of document; document number

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: yes, where relevant
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size 25.5 x 18.4cm, in two 8" columns, type size 8/9 plantin 15 ems.

9. ARRANGEMENT: numerical order in countries within technological field grouping (e.g., production, metals and alloys, chemical compounds, electrochemistry, electrodeposition and surface coatings, etc.)

10. PATENT ABSTRACTS PUBLISHED IN 1970: 214
UP TO 1970: 3,675

11. PERCENTAGE OF PATENT ABSTRACTS: 40%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: DT 2-5 months, FR 6-9 months, GB 6-18 weeks, NL 3-6 months, US 4-7 months

14. PUBLICATION FREQUENCE: quarterly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same issue

16. SUBSCRIPTION FEES: no fees charged

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no fees charged

18. COVERAGE TO BE INCREASED IN FUTURE? no

quinone uses Ti electrodes which contain 0.1–0.5 wt.% Fe and are coated with Pt metals.

ELECTRODEPOSITION AND SURFACE COATINGS

Electrodeposition of Rhodium

DEUTSCHE GOLD-UND SILBER-SCHEIDEANSTALT
British Patent 1,244,720

Thick craze-free Rh coatings are deposited from a bath containing a Rh sulphite-sulphate complex.

Palladium-Nickel Alloy Plating Bath

KABUSHIKI KAISHA SUIVA SEIKOSHA and NISSHIN K. K. K. *U.S. Patent* 3,580,820

A Pd-Ni alloy plating bath contains an ammoniacal solution of a Pd salt and a Ni salt. A sulphonate or a sulphamide brightener is added.

Bright Palladium Plating

V.E.B. BERGBAU- & HUTTENKOMBINAT
German Offen. 1,621,188

Bright Pd plating is achieved using plating baths with added reducing agent, e.g. a hydrazine compound.

LABORATORY APPARATUS AND TECHNIQUE

Palladium Tube in Gas Analysis

CALIFORNIA INSTITUTE OF TECHNOLOGY
U.S. Patent 3,589,171

Sequential analytical determination of a vapour sample is performed by suspending the sample in a H_2 carrier gas, or a mixed carrier gas of H_2 and He, and passing the suspension through a gas chromatograph. More than 90% of the H_2 is removed from the effluent by passing it through a heated Pd tube before analysis.

JOINING

High Temperature Brazing Alloys

WESTERN GOLD & PLATINUM CO.
U.S. Patent 3,577,233

Brazing alloys contain 25–70% Au, 5–30% Pd, 15–40% Ni, 4–12% Cr and 0.01–2% Y. These alloys have substantial ductility and high oxidation and corrosion resistance at 870–980°C and above for 100 hours or more. They are useful for joining stainless steel and super-alloys in aircraft, spacecraft, engines and components.

HETEROGENEOUS CATALYSIS

Hydrocarbon Steam Reforming

IMPERIAL CHEMICAL INDUSTRIES LTD.
British Patent 1,240,453

A catalyst, for steam reforming hydrocarbons with decreased C lay-down, contains Ni and/or Co, a Pt metal and a refractory oxide support. The support contains more than 5% alkaline earth metal oxide (calculated as CaO) but less than 0.5% alkali metal compounds (calculated as K_2O). Ru is the preferred Pt metal.

Catalyst

UBE INDUSTRIES LTD. *British Patent* 1,241,255

C_3H_6 is converted to acrylonitrile by reaction with O_2 and NH_3 in the presence of a catalyst which contains 80–98 wt.% of a solid solution of Sb oxide and SnO_2, and 2–20 wt.% of one or more oxides of In, Ir or Ru.

Cracking Catalyst

RUHRCHEMIE A.G. *British Patent* 1,241,646

Isobutyraldehyde is decomposed to C_3H_6, CO and H_2 in the presence of Rh and/or Pt.

Desulphurisation

BRITISH PETROLEUM CO. LTD.
British Patent 1,242,889

S is removed from hydrocarbon fractions by the action of H_2 in the presence of a crystalline mordenite of reduced alkali content and a catalytically active metal, preferably Pt or Pd.

Hydrofining Catalyst

TEXACO DEVELOPMENT CORP.
British Patent 1,242,962

The properties of lubricating oils are improved by treatment with H_2 in the presence of 0.1 to 5% Pt or Pd on a H-form mordenite base.

Hydrocracking Catalyst

MOBIL OIL CORP. *British Patent* 1,243,366

A hydrocracking catalyst consists of an active inorganic oxide supporting a catalytically active metal such as Pt or Pd.

Hydrogenation Catalyst

TEXACO DEVELOPMENT CORP.
British Patent 1,247,656

The first stage in the production of a lubricating oil is the mild hydrogenation of a suitable stock in the presence of a Group VIII metal, e.g. Pd or Pt or an oxide or sulphide thereof.

Hydrocarbon Reforming Catalyst

IMPERIAL CHEMICAL INDUSTRIES LTD.
British Patent 1,249,466

A hydrocarbon reforming catalyst contains a Pt group metal (preferably Ir or Ru) and an alkaline earth oxide such as CaO.

Oxidation Catalyst

KNAPSACK A.G. *British Patent* 1,250,265

Unsaturated esters of carboxylic acids are obtained by the oxidation of olefins in the presence of a Pd catalyst.

27. PLUTONIUM DOKUMENTATION

Gesellschaft für Kernforschung m.b.H.
75 Karlsruhe, P.O. Box 3640, Germany (Federal Republic)

1. PATENT DOCUMENTS ABSTRACTED: all countries, mainly Europe and USA

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: nuclear-, radio- and radiation-chemistry, nuclear engineering, radiation biology, nuclear medicine, reprocessing, waste-disposal, dealing with plutonium and transplutonium elements

4. ABSTRACT LENGTH: 100-150 words

5. BIBLIOGRAPHIC DATA INCLUDED: inventor; title; country of publication; kind of document; document number;

6. CLASSIFICATION SYMBOLS: yes, own classification, 8 groups finely divided

7. CHEMICAL FORMULAE: yes, also data and formula of nuclear physics
DRAWINGS, DIAGRAMS, etc:

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4

9. ARRANGEMENT: classification grouping, indexes with author, patent number

10. PATENT ABSTRACTS PUBLISHED IN 1970: 49 / 1971: 83
UP TO 1970: 1,100

11. PERCENTAGE OF PATENT ABSTRACTS: 2-3%

12. LANGUAGE OF ABSTRACTS: English, French, German

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: no data

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER
WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: periodical plus cumulated registers DM578.-
(US$ 180.-) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

the modifications that would be required are of such a magnitude that, for the shorter-decayed fuels, the addition of a new reprocessing head-end facility (for receiving and cleaning the fuel and for carrying out all the process steps through feed adjustment) would probably be more desirable than renovation of the existing facilities. (23174) Forts.

Pu-Dok., Gesellschaft f. Kernforschung m.b.H., Karlsruhe

727

Roth, B. (23073)

Zentrifugalextraktor zum Mischen und Trennen von radioaktiven Stoffen

(DAS 1,557,068 (1967/1971) 4 S.) DAS 1,557,068

Die Erfindung betrifft einen Zentrifugalextraktor zum Mischen und Trennen von radioaktiven Stoffen in Wiederaufarbeitungsanlagen für Kernbrennstoffe, bestehend aus einer Flügelradpumpe, die mindestens zwei Phasen unterschiedlichen spezifischen Gewichts aus getrennten Leitungen in die sie umgebende Mischkammer saugt und dort miteinander mischt, einem im Anschluß an die Mischkammer angeordneten, die Phasen wieder voneinander trennenden, hohlzylindrischen Rotor, dessen Boden eine zentrale Zulauföffnung aufweist, durch die zugleich die Antriebswelle der Flügelradpumpe hindurchgeführt ist, im Rotor eingesetzten Mitnehmerstegen und je einem Ringwehr für die einzelnen Phasen mit diesen zugeordneten radialen Auslaßöffnungen und Ringkanälen im Extraktorgehäuse zur Ableitung der getrennten Phasen. Derartige Zentrifugalextraktoren können bei der Wiederaufarbeitung bestrahlter Kernbrennstoffelemente zur Extraktion der Spaltstoffe wie U und Pu von den Spaltprodukten eingesetzt werden. Dabei wird als Extraktionsmittel normalerweise eine 2.5.1.3.1 Forts.

organische Lösung (leichte Phase) verwendet, die zunächst mit einer wäßrigen, die Spaltstoffe und Spaltprodukte enthaltende Lösung (schwere Phase) gemischt und anschließend wieder von dieser getrennt wird. Während des Mischens wechselt das U bzw. Pu von einer Phase zur anderen über. (23073) Forts.

Pu-Dok., Gesellschaft f. Kernforschung m.b.H., Karlsruhe

728

Development of Aqueous Processes for LMFBR Fuels. Solvent Extraction with TBP (23172)

(ORNL-4682: Chemical Technology Division Annual Progress Report for Period Ending March 31, 1971 (1971) S.59-61) ORNL-4682

Emphasis in the solvent extraction studies has been centered on establishing flowsheet conditions for the interim processing of LMFBR fuels in an existing plant. Recent studies have been concerned primarily with improving the efficiency of stripping Pu from TBP and with determining the effect of variations in temperature on the extraction and stripping processes. Coefficients for the extraction of Pu(IV) with TBP from 3 to 4 M HNO_3 were essentially independent of temperature; however, in extractions from 0.3 M HNO_3, the coefficient decreased by a factor of 4 as the temperature was increased from 30 to 60°C. The efficiency of stripping Pu with 0.5 M HNO_3 was appreciably improved by increasing the temperature, apparently because this favored disproportionation of the Pu(IV). Hydroxylamine nitrate was the most effective of several reductants examined as aids in stripping Pu. 2.5.1.3.2

Pu-Dok., Gesellschaft f. Kernforschung m.b.H., Karlsruhe

Schmieder, H., Kuhn, E. (23261)

Automatische Kontrolle und Steuerung von Aufarbeitungsprozessen für Kernbrennstoffe durch Spektralphotometrie und Leitfähigkeitsmessung

(Chemie.Ingenieur-Technik, 44 (1972) No 3, S.104-11)

Die Absorptionsspektren von Pu(III), Pu(IV), Pu(VI), U(IV) und U(VI) wurden in salpetersaurer Lösung (0,3 bis 8 m HNO_3) aufgenommen. Zur Mehrkomponenten-Analyse wurden von den einzelnen Oxidationsstufen Schlüsselbanden ausgewählt und für die Abhängigkeit der molaren Extinktionskoeffizienten von der HNO_3-Konzentration empirische Funktionen bestimmt. Mit Hilfe der elektrischen Leitfähigkeit der Lösungen kann aus den Spektren neben den Konzentrationen der einzelnen Oxidationsstufen auch die HNO_3-Konzentration annähernd bestimmt werden. Die Anwendung der Methode für die automatische Kontrolle von Wiederaufarbeitungsprozessen für Kernbrennstoffe (Purex-Prozeß) wird diskutiert. Neben den Konstruktionsprinzipien eines Betriebsphotometers zur Mehrkomponentenanalyse wird die Möglichkeit der rechnergeführten Prozeßsteuerung am speziellen Beispiel der elektrolytischen Pu/U-Trennung beschrieben. (Aut.) 1.3.2 2.5.1.3.2

Pu-Dok., Gesellschaft f. Kernforschung m.b.H., Karlsruhe

730

Espie, J.-Y., Jouan, C., Koehly, G. (23110)

Verfahren zum Trennen von Neptunium von Plutonium

(OS 2,126,208 (1970/1971) 11 S.) OS 2,126,208

Die Erfindung betrifft ein Verfahren zum Trennen von Np von Pu durch Flüssig-Flüssig-Extraktion, das insbesondere für die Gewinnung von Np 237 aus Ablaugen von Fabriken zur Behandlung bestrahlter Kernbrennstoffe und zur Behandlung von bestrahlten Targets aus Np 237 zur Gewinnung von Pu 238 anwendbar ist. Die Caprinsäurekonzentration in der organischen Phase beträgt mindestens 0.3μ. Die zu behandelnde Lösung und die wässrige Waschlösung enthalten ein Fe-II-Salz z.B. Eisen-II-Sulfamat. 2.5.1.3.3

Pu-Dok., Gesellschaft f. Kernforschung m.b.H., Karlsruhe

731

Berger, R., Boucher, R., Derian, J.-C. (23130)

French Programme on Production and Applications of Plutonium 238

(Information Bulletin on Isotopic Generators (CEA-ENEA), No 11, 1971, S.10-36)

The most recent results obtained in the French programme on production and applications of Pu 238 are reported. In the first part of this paper, research on Pu production is described. Research and development on Pu 238 have been directed towards fabricating irradiation targets based on Np 237 or Am 241, and the chemical processing of these targets when irradiated. An optimisation study is now going on into the conditions under which Np 237 should be irradiated to obtain Pu 238 with very low Pu 236 content. Finally the coming into service in November 1970 of the Pétrus line is an important step in the production of transuranium elements. In the second part of this paper, medical applications of Pu 238 (surgically implanted electrical pacemaker and surgically implanted artificial heart) are described. The DELPHI enquiry shows that French heart and other specialists believe that developing an artificial heart is a realistic objective and they find it reasonable that this technique will become widespread during the next decade. 2.5.1.3.3 4.3 4.6 5.4 6.6 Forts. (23130)

Pu-Dok., Gesellschaft f. Kernforschung m.b.H., Karlsruhe

28. BFMIRA WORLD ABSTRACTS ON PROTEIN COLLOIDS

The British Food Manufacturing Industries Research Association
Randalls Road, Leatherhead, Surrey - England

1. PATENT DOCUMENTS ABSTRACTED: DT, FR, GB, JA, US

2. BASIS OF ABSTRACTS: for GB full text used; for other an abstract is used
3. TECHNOLOGICAL FIELDS COVERED: Gelatin and glue industries

4. ABSTRACT LENGTH: about 50 words

5. BIBLIOGRAPHIC DATA INCLUDED: For GB: title; patentee; inventor (when known); country of origin; patent number. For other countries: title; patentee; inventor (when known); country of publication; kind of document; document number; source of abstract

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: occasionally
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4

9. ARRANGEMENT: technological subject grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: approx. 100 (estimated)
UP TO 1970: approx 1,000 (estimated)

11. PERCENTAGE OF PATENT ABSTRACTS: 20% (presently)

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: for GB 1-3 months; others 4-7 months

14. PUBLICATION FREQUENCE: quarterly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: BFMIRA members no charge;
Commercial organizations non-members £25 (US$ 65.-) per year
Educational establishments £15 (US$ 39.-) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

BFMIRA, WORLD ABSTRACTS ON PROTEIN COLLOIDS, February, 1972

8

38/72. GELATIN CAPSULES: A method and apparatus for packing —— .
CENTRE DE RECHERCHES MARCEL MIDY (R. CLAUDE). (France.) Brit. Pat. 1,252,333.

It is claimed that former problems of packing liquids into gelatin capsules are overcome. A method is provided for introducing a molten mixture of an active principle and a semi-synthetic glyceride, cocoa butter or hydrogenated fat, into the capsule. The constituents of the mixture other than the active principle must have a fusion temperature between 30° and 40°C. Other constituents of the mixture are preferably C_{10} to C_{18} saturated fatty alcohol condensates, silicones, substances for protecting the active principle against humidity and other substances conventionally used in pharmaceutical compositions. Apparatus for carrying out the packing operations is also described.

39/72. GELATIN CAPSULES: Improved —— .
R.P. SCHERER CORPORATION. (U.S.A.) Brit. Pat. 1,252,200.

The manufacture of gastro-resistant gelatin capsules for the pharmaceutical industry is described. The capsules are a combination of gelatin, glycerine and/or sorbitol, and a silicone fluid with a viscosity between 100 and 12,500 centipoises. A number of examples of capsules made from differing proportions of these constituents is quoted. The constituents are heated together until complete melting is achieved, formed and then contacted with a solution of aldehyde in dispersion in a volatile solvent miscible with water. The solvent is subsequently eliminated by evaporation.

40/72. GELATIN DESSERT: Freeze-dried candy-coated —— .
W.R. GRACE & CO. (M. LASKIN). U.S. Pat. 3,483,000.

Strawberry gelatin was prepared, poured into flat pans and frozen. It was then freeze-dried, cut into pieces and coated with sugar confectionery.

41/72. GLOBULAR GEL FORMATION.
FUJIKO FOODS KOGYO CO. LTD. Jap. Pat., 23031/71 (Fd Technol., Champaign, 1971, 25 (12), 1289).

"Process employing a gelation bath of two liquid layers, the upper layer being immiscible with water and the lower with an aqueous solution of acid or a multi-valent metal ion. The solution to be gelled containing an agent such as an alginate is fed into the upper layer and forced to form a spherical interface producing globular units which fall through the lower gelation layer, where the surface of the ball contacts the coagulant."

42/72. MICROENCAPSULATION: New —— process for promotions.
ANON. Fd Mf., 1971, 46 (9), 20.

This is a brief report of a process for microencapsulating flavours with gelatin and printing them on to labels for sales promotional purposes.

29. PUMPS ABSTRACTS

BHRA Fluid Engineering
Cranfield, Bedford - England

1. PATENT DOCUMENTS ABSTRACTED: GB patents only

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: fluids machinery, i.e. pumps of all types other than those distinctly for fluid power; fans, blowers and certain compressors; hydraulic turbines; jet ejectors, and some related to pumping systems.

4. ABSTRACT LENGTH: 80 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; inventor and/or patentee; country of origin; country of publication; kind of document; document number; date of document

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: yes

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4, in two columns

9. ARRANGEMENT: subject grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: started 1971: 98 abstracts
UP TO 1970: -

11. PERCENTAGE OF PATENT ABSTRACTS: 15%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 1-10 months

14. PUBLICATION FREQUENCE: bi-monthly

15. PUBLICATION SEPARATE OR TOGETHER
WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: GB and European countries £20 (US$ 52.-) per year
other countries including air-mail postage £30 (US$ 78.-) per yea

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

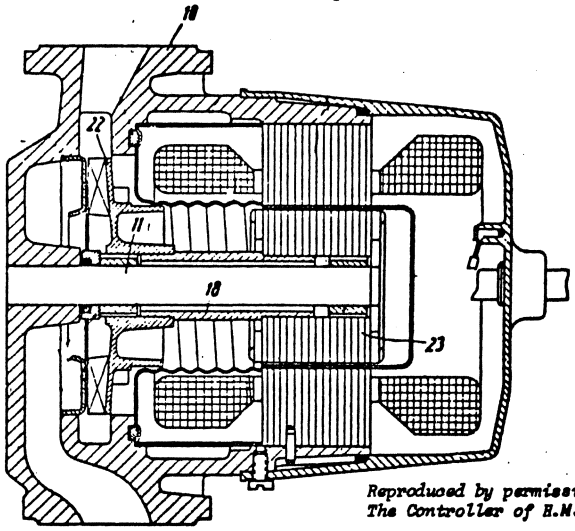
PUMPS (Cont/d...)

1.51PA1
Improvements in or relating to arrangements for priming centrifugal pumps.
Dodworth, P. A. C. and Skingley, G. A. (Blaw Knox Ltd., U. K.). British Patent Spec. 1,204,127. (September 3, 1970).

A priming system for an engine-driven contractor's pump comprises a separate belt-driven vacuum pump and a combined float chamber and check-valve tank, the separate compartments being connected to the main pump suction and discharge branches respectively. A ball float operates a flap valve via an articulated lever, and also an air valve, thus preventing water from entering the vacuum pump by limiting the maximum level in the chamber. 4 claims : 2 figs.

1.52PA1
Improvements in or relating to motor-driven impeller pumps.
Boes, G. (Loewe Pumpenfabrik G. m. b. H., German Federal Republic). British Patent Spec. 1,204,165. (September 3, 1970).

A glandless pump-motor unit with a 'canned' rotor, suitable for central heating circulation duty, has an integral housing 10 for both pump and motor, for which cheaper construction is



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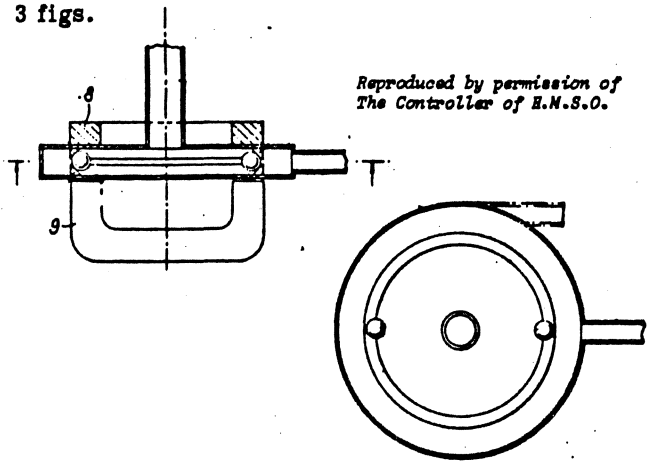
claimed : the figure is of a first embodiment. The impeller 22 and motor rotor 23 are fixed to a hollow shaft 18 which rotates on a fixed spindle 11. Alternative ways of preventing flow of contaminated liquid from the pump into the rotor space, and also provision for positive circulation through the bearings, are described. A simple cover encloses the outer part of the motor stator. 10 claims : 2 figs.

1.53PA1
Centrifugal pump.
Fays, R. M., Fays, R. J. and Fays, R. H. (France). British Patent Spec. 1,207,072. (September 30, 1970).

This specification describing a novel form of glandless pump in which the impeller is replaced by a pair of balls travelling around a race. Fluid friction between the travelling balls and the fluid in the casing sets up a vortex which provides the pumping action. The balls, which are made of a magnetic material, are operated by a magnetic field set up between a rotating magnet 9 and a ring of high permeability 8. Nominally, all bearings are external, although the race itself is, in fact, a bearing surface. 12 claims : 3 figs.



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1.54PA1
Pump employing magnetic drive.
Englesberg, J. L. (U. S. A.). British Patent Spec. 1,207,711. (October 7, 1970).

A problem with larger glandless pumps driven by means of a magnetic coupling is that of the large axial thrust introduced by the coupling itself. It is proposed to reduce the load on the thrust bearing by a hydraulic balancing arrangement which circulates pumped fluid in a fairly fine clearance behind the immersed half of the magnetic coupling. 4 claims : 3 figs.

1.55PA1
Improvements in or relating to centrifugal pumps.
Paish, H. P. S., Dagwell, H. L. and Anley, P. J. (Henry Sykes Ltd.). British Patent Spec. 1,209,827. (October 21, 1970).

In this self-priming pump, the screening of large solids is carried out by means of restricted width passageways within the pump casing itself. This debris can be removed through a number of plugged holes in the outside of the casing. 6 claims : 2 figs.

1.56PA1
Improvements in or relating to centrifugal pumps.
Grundfoss A/S (Denmark). British Patent Spec. 1,210,435. (October 28, 1970).

A method of cheapening the construction of small borehole pumps is described in which the screen between motor and pump can be manufactured from sheet metal stampings instead of the more normal casting. 6 claims : 4 figs.

30. EURO ABSTRACTS (RESEARCH)

Sales Office for Official Publications of the European Communities
P.O. Box 1003 - Luxembourg 1

1. PATENT DOCUMENTS ABSTRACTED: European Community Countries (BE, DT, FR, IT, LU, NL)

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: science and technology derived from implementation of the Communities' research program

4. ABSTRACT LENGTH: maximum 200 words

5. BIBLIOGRAPHIC DATA INCLUDED: EUR Pat. Ref. Number (reference number of "euro-abstracts); title; country; number and date of first application; inventor; applicant; country of origin; country of publication; kind of document; document number;

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: yes

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4, in two columns

9. ARRANGEMENT: technological field grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: 70
UP TO 1970: approx. 1,580

11. PERCENTAGE OF PATENT ABSTRACTS: about 10%

12. LANGUAGE OF ABSTRACTS: original language (English, French, German, Italian, Dutch) and English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: approximately 18 months after priority date (0-8 weeks from publication of DT-FR-NL)

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: in same issue but separate

16. SUBSCRIPTION FEES: 1,025 B.frs./year (US$ 23.60)

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

Persons and enterprises of the Communities which after examination of the full description of the following patents might be interested to exploit the same on an industrial scale are requested to get in touch with

Commission of the European Communities
D.G. XIII-A
29, rue Aldringen
Luxemburg (G.D. of Luxemburg)

in order to obtain further details as to the terms and conditions under which licences can be granted.

ENGINEERING

P 10/9 **EUR-Pat. Ref. 1484**

Elektrische Schaltungsanordnung zur Detektion der Phasenanlage eines Wechselstromsignals

First application : Luxemburg, No 21 31 335.9, August 13, 1970
Inventor : J.R. PEGELS
Applicant : Euratom
Origin : JNRC - Petten Estab.

Für die Lösung der Aufgabe, die Phase eines Wechselstroms mit einer Referenzphase zu vergleichen, gibt es zahlreiche Schaltungen, die unter Namen wie Synchrongleichrichter, Demodulator, Phasendetektor oder Mischstufe bekannt sind. Hier wird ein differentieller Operationsverstärker mit nachgeschalteter Umpolstufe verwendet, wobei die Besonderheit darin liegt, dass die von der Referenzphase gesteuerten Schalter der Umpolstufe in Gegenkopplungsschleifen des Operationsverstärkers integriert sind. Dadurch verringert man die Ausgangsimpedanz der Schaltung und erhöht die Stabilität gegenüber Alterungserscheinungen oder Temperatureinflüssen bei den Schaltern (= Transistoren) der Umpolstufe. Zugleich wird die Schaltungssymmetrie, die sonst hauptsächlich durch die Unsymmetrie der Schalter bestimmt wird, nur noch eine Funktion des Widerstandsabgleichs in den Gegenkopplungsschleifen.

Electrical circuit arrangement for the phase detection of an AC signal

Circuit arrangements which compare the phase of an AC signal with a reference phase are known under denominations such as synchron rectifier, demodulator, phase detector or mixing stage. In this case a differential amplifier is used with, at its output, a synchron inverter. The particularity is seen in the feedback loops of the amplifier which derive from the output of the inverter stage. Thus, the output impedance of the arrangement is considerably reduced and the stability against aging or temperature influences in the invertor transistors is increased. Moreover, the symmetry of the arrangement, which otherwise is defined by the delicate symmetry of the invertor transistors, becomes only dependent from the resistors in the feedback loops.

P 10/10 **EUR-Pat. Ref. 1523**

Capteur capacitif de déplacement

First application : Luxemburg, No 61.496, August 10, 1970
Inventors : V. ANDRIGHETTI, L. VERHEYDEN
Applicant : Euratom
Origin : JNRC - Ispra Estab.

La tête de mesure est un condensateur plan portant ses deux armatures dans le même plan. Le déplacement de la pièce dont il faut mesurer les mouvements au voisinage du condensateur plan apporte une perturbation du diélectrique et donc de la capacité du condensateur. Ladite pièce, qui est seule à se mouvoir (la tête de mesure étant immobile), peut être en matériau conducteur ou non.

Capacitive displacement measuring apparatus

The measuring head is a plane condenser having its two plates in the same plane. The displacement of the piece of which the movements must be measured in the vicinity of the plane condenser causes a perturbation in the dielectric of the condenser and also of the capacity of it. Said piece, which is the only one to move (the measuring head remaining fixed) may be in a conductive material or not.

31. (RUBBER AND PLASTICS) INFORMATION SERVICES

Rubber and Plastics Research Association of Great Britain (RAPRA)
Shawbury, Shrewsbury SY4 4NR - England

1. PATENT DOCUMENTS ABSTRACTED: GB - abridgements, US - Official Gazette

2. BASIS OF ABSTRACTS: usually from abstracts; full text only where abridgements inadequate

3. TECHNOLOGICAL FIELDS COVERED: rubbers and plastics

4. ABSTRACT LENGTH: 100 words

5. BIBLIOGRAPHIC DATA INCLUDED: patentee; inventor(s); country of publication; kind of document; document number; priority application(s) numbers(s), date(s) and country; date of document; title

6. CLASSIFICATION SYMBOLS: own special code numbers

7. CHEMICAL FORMULAE: only if reproducible unambiguously with a typewriter
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4, in two columns

9. ARRANGEMENT: technological field grouping;
author, subject and patent indexes issued half-yearly

10. PATENT ABSTRACTS PUBLISHED IN 1970: 13,329
UP TO 1970: 300,000 (estimated)

11. PERCENTAGE OF PATENT ABSTRACTS: 58%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 2 - 3 months

14. PUBLICATION FREQUENCE: weekly

15. PUBLICATION SEPARATE OR TOGETHER
WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same issue

16. SUBSCRIPTION FEES: free to members of RAPRA;
GB £60 (US$ 156.-) per year
Overseas £65 (US$ 169.-) per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

1781P
General Tire & Rubber Co.; Perry, G.D.
US 3615971 appl. 21.8.69 (852011) publ. 26.10.71.
SYNTHETIC SUEDE COVERED COMPOSITE ARTICLE
A flexible laminate comprises a layer of non-expandable vinyl polymer and a layer of expandable vinyl polymer, and is formed against a surface wherein the non-expandable layer is adjacent the surface. A backing material is applied to the formed laminate adjacent the expanded layer to make a composite article, which is removed from the surface, then the non-expandable layer is stripped from the expanded layer to produce a suede surface on the composite article. 62(13)-7

1782P
General Tire & Rubber Co.; Butler, E.B., Reilly, W.T., Whorley, G.E.
US 3615990 appl. 23.7.69 (844010) publ. 26.10.71.
SUBSTITUTE LEATHER
A laminate of a nonwoven batt needled to the backside of a knit or woven fabric is used as a substrate or support. During needling, loops and strands of the batt are drawn through the fabric by the needles, resulting in a large number of fibre ends and loops projecting from the surface and forming a visible linear pattern. 62(13)-7

1783P
Imperial Chemical Industries Ltd.; Brayford, J.R., Fisher, I.S., Robertson, M.M.
US 3616183 priority 22.3.68 (13988/68) publ. 26.10.71.
POLYESTER SHEATH-CORE CONJUGATE FILAMENTS
Combine the tensile properties of poly(ethylene terephthalate) as core with the surface properties of a copolyester of ethylene terephthalate/polyoxyethylene terephthalate as sheath. 43C112-62(14)-7

APPLICATIONS

Adhesives, Sealants, Coatings, Binders

1784P
TRW Inc.; Lubowitz, H.R., Burns, E.A.
US 3616193 appl. 2.3.66 (531026) 14.5.68 (728885) publ. 26.10.71.
THERMOSET POLYDIENE RESIN ADHESIVE BONDED LAMINATES
A polydiene resin, e.g. dihydroxyl terminated 1,2-polybutadiene, is mixed with an organic chain extender, e.g. 2,4-toluene diisocyanate, in the presence of a peroxide free radical initiator, e.g. dicumyl peroxide, to form a liquid polymeric mixture which is dissolved in a carrier solvent to facilitate application on a surface to be bonded or coated. After removal of the carrier solvent, the liquid polymeric mixture is exposed to ambient or slightly elevated temp. to form an elastomeric coating or bond. The elastomer is subsequently cured at elevated temp. 42D11-6A1-7

1785P
Grace, W.R., & Co.; Kehr, C.L., Guthrie, J.L.
US 3616041 appl. 23.1.69 (793534) publ. 26.10.71.
ADHERING TWO SUBSTRATES WITH A LIQUID CURABLE COMPOSITION
Curing of coatings, sealants and laminates under ambient conditions without affecting the pot life of the curable liquid composition. A polyene and a polythiol composition is used as a primer coat for the substrate or as a top coat for the curable composition. Where oxygen is excluded from the reaction, a minor amount of an oxime ester is added to the system to assure curing to a solidified product. 6A1-7

1786P
Weyerhauser Co.; Gillern, M.F., Freeman, H.G.
US 3615975 appl. 5.5.69 (821567) publ. 26.10.71.
BONDING OF, e.g. WOOD, USING FOAMED GAP-FILLING ADHESIVES
The adhesives are prepared using amine-modified aldehyde condensation polymers in which a foaming agent or agents have been incorporated. The resins cure rapidly at ambient temp. An epoxy resin and methylene donor are also included. 43C51-6124-6A14-7

1787P
Dow Chemical Co.; Rubens, L.C.
US 3616172 appl. 21.1.69 (792500) publ. 26.10.71.
FOAM COMPOSITES FOR FILLING ENCLOSED SPACES
Prepared by coating the surface of a shaped core material with a layer of expandable resin particles plus a binder, e.g. asphalt. The composite is then placed within the cavity to be filled and heated, so that the rest of the enclosed space is filled with the core material and the expanded particles and binder. The core material may comprise thermostable expandable cellular material. 6124-6A2-7

1788P
U.S. Dept. of the Navy; Berger, A.J., Cizek, A.W., Jr., Simeon, R.J.
US 3615896 appl. 31.7.69 (846418) publ. 26.10.71.
METAL SURFACE PRIMER
A deck primer for use with non-slip deck coatings of the chemically cured resin type comprises a mixture of Formula No. 117 wash primer (Military Specification MIL-D-23003 (SHIPS) and Amendment 2) and a specific moisture-cured polyurethane resin in the ratio of 5:4 parts by volume, respectively. 43C6-6A3-7

1789P
British Ceramic Research Association; Brough, R.
GB 1255969 priority 24.12.68 (61481/68) (GB) publ. 8.12.71.
WATERPROOFING CERAMIC GOODS
By impregnating with a mixture of silicone elastomer and a catalyst, in solution or suspension, in acetone or methylene chloride so that some of the pores in the body are partially filled with the elastomer. 45C-6A312-7

1790P
Dow Corning Corp.; Harper, J.R.
US 3615071 appl. 16.4.69 (816779) publ. 26.10.71.
FLEXIBLE MOULD
Shaped articles of polyester, polyurethane or epoxy resin are made using a flexible mould wherein a thin continuous film of a methyl ethyl ketone soluble copolymer of vinylidene chloride and acrylonitrile is applied to the shape-forming surface of the flexible mould prior to moulding an article. This coating forms an outer coating on the surface of the moulded article. 42C387C391-6A317-7

32. DIE STÄRKE (STARCH)

Verlag Chemie G.m.b.H.
694 Weinheim/Bergstr., Postfach 129/149, Pappelallee 3, Germany (Fed. Rep.

1. PATENT DOCUMENTS ABSTRACTED: DT, OE, US mostly
   rarely others like SW, CS, SU .

2. BASIS OF ABSTRACTS: full text

3. TECHNOLOGICAL FIELDS COVERED: research, processing and use of carbohydrates

4. ABSTRACT LENGTH: 110 words

5. BIBLIOGRAPHIC DATA INCLUDED: patentee's name and address; title; country of publication; kind of document; document number; application date; date of published, examined application; date of document; priority country; priority date

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: yes
   DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size A4

9. ARRANGEMENT: none special

10. PATENT ABSTRACTS PUBLISHED IN 1970: approx. 100
    UP TO 1970: approx. 1,000

11. PERCENTAGE OF PATENT ABSTRACTS: approx. 50%

12. LANGUAGE OF ABSTRACTS: German

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 6 months - 2 years

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER
    WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same issue

16. SUBSCRIPTION FEES: DM 122 (US$ 40.--) plus postage per year

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

Zinkchlorid wurde die Mischung in eine Mischung O-methylierter Phenyl-α-maltoside überführt, aus welcher nach Einwirken von Takaamylase A (EC 3.2.1.1) Phenyl-2'-methyl-α-maltosid isoliert wurde. Dieser Stoff ist den Aktivzentren des Enzyms völlig unerreichbar und hat auch keine inhibitorische Wirkung bei der enzymatischen Hydrolyse von Phenyl-α-maltosid. J. Eliassaf

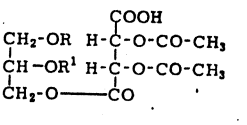
Patente / Patents

Mohwinkel, F., Ahlften: **Verfahren zum Garen von pflanzlichem Gut in geschlossenen Packungen.** Österr. Pat. 288 838, angem. 7. 3. 1969, ausgel. 15. 7. 1970, ausgeg. 25. 3. 1971, Priorität BRD 21. 8. 1968 u. 9. 3. 1968, 6 Patentansprüche.

Das geputzte pflanzliche Gut, beispielsweise rohe, geschälte Kartoffeln, wird in Plastikbehältnissen vakuumverpackt. Dann werden die geschlossenen Behälter in einen Kochbehälter eingebracht. In dem Kochbehälter befindet sich ein Heizmedium, wie Wasser oder Wasserdampf. Das Gut wird darin bei einer Temperatur von etwa 100 °C unter einem den Innendruck in der Packung übersteigenden Außendruck gegart. Anschließend wird unter Aufrechterhaltung des beim Garen angewendeten höheren Außendrucks abgekühlt. Als Verpackungsmaterial können Plastiktüten verwendet werden. Der erforderliche Außendruck kann durch ein Gemisch von Wasserdampf und Druckluft unter gleichzeitiger Regelung der Temperatur eingestellt und kontinuierlich aufrechterhalten werden. Die Zuführung der Druckluft erfolgt vorzugsweise in den an den Wasserspiegel angrenzenden Dampfraum.
G. Graefe

Henkel & Cie GmbH, Düsseldorf: **Verfahren zur Herstellung von pulverförmigen, rieselfähigen Backmitteln.** Österr. Pat. 289 000, angem. 28. 3. 1969, ausgel. 15. 8. 1970, ausgeg. 25. 3. 1971, 13 Patentansprüche.

Eine geschmolzene Mischung aus Diacetylweinsäuremono-/-difettsäureglyceriden und Fett wird auf eine bewegte, fein verteilte, pulverförmige Substanz aus Mehl und/oder Stärke und/oder Staubzucker aufgetragen. Das Auftragen erfolgt durch Aufsprühen der geschmolzenen Mischung auf das im freien Fall befindliche pulverförmige Material. Das Fett hat vorzugsweise einen Schmelzpunkt von 28 bis 35 °C. Die Diacetylweinsäuremono-/-difettsäureglyceride entsprechen der nebenstehenden allgemeinen Formel, in der R einen gesättigten oder ungesättigten C_{12}-C_{24}-Fettsäurerest und R' Wasserstoff oder einen gesättigten oder ungesättigten C_{12}-C_{24}-Fettsäurerest bedeuten.



G. Graefe

Sydkemi Aktiebolag, Malmö (Schweden): **Verfahren zur Gewinnung einer oder mehrerer Zuckerarten und von Ligninsulfonsäuresalzen aus getrockneter Alkalimetall- oder Erdalkalimetallsalzsulfitablauge.** Österr. Pat. 289 845, angem. 16. 10. 1967, ausgel. 15. 9. 1970, ausgeg. 10. 5. 1971, Priorität Schweden 5. 5. 1967, 2 Patentansprüche.

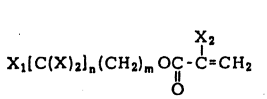
Die getrocknete Ablauge wird mit wasserfreiem Äthanol oder Methanol extrahiert, der Extrakt vom ligninhaltigen Rückstand abgetrennt, und die Zuckerarten werden durch Abdampfen des Alkohols gewonnen. Um die Extraktion einzuleiten, wird die Sulfitablauge zusammen mit dem Extraktionsmittel auf eine niedrige Temperatur unterhalb des Siedepunktes des Extraktionsmittels vorgewärmt. Dann wird das Gemisch auf 30 °C und darunter abgekühlt und anschließend die Extraktion im Extraktionsgefäß vollendet. Der warme vom Rückstand abgetrennte Extrakt wird zur Entfernung von Verunreinigungen mit Kaliumcarbonat gerührt, abgekühlt und filtriert. Der gereinigte Rückstand wird in Alkohol gelöst, und aus der Lösung wird die gewünschte Zuckerart kristallisiert erhalten. Geht man von einer aus Hartholz erhaltenen Sulfitablauge aus und löst man den gereinigten Rückstand in 3 bis 4 Teilen methanolfreiem Äthanol, so erhält man kristallisierte Xylose. G. Graefe

Sichel-Werke GmbH, Hannover: **Verfahren zur Herstellung eines Futtermittelzusatzes.** Österr. Pat. 290 280, angem. 20. 5. 1968, ausgel. 15. 8. 1969, ausgeg. 25. 5. 1970, 3 Patentansprüche.

Der Futtermittelzusatz auf der Basis von Sauermolke wird in der Weise hergestellt, daß der Sauermolke etwa 5 bis 200 Gew.-Teile Stärke, auch in Form von Sojaschrot bzw. Sojamehl, bezogen auf 100 Gew.-Teile Trockensubstanz der Sauermolke, zugesetzt werden und das Gemisch anschließend auf geheizten Walzen getrocknet wird. Vorzugsweise werden 20 bis 150 Gew.-Teile Stärke bzw. Stärkeprodukte auf 100 Gew.-Teile Trockensubstanz der Sauermolke eingesetzt. Vor der Walzentrocknung kann der pH-Wert des zu trocknenden Gemisches mit Ammoniak auf 7,5 bis 9 eingestellt werden, wobei NH_3 bis zur Hälfte seines Gewichtes durch Na_2CO_3 ersetzt werden kann. G. Graefe

Colgate-Palmolive Company, New York (USA): **Textilbehandlungsmittel.** Österr. Pat. 291 929, angem. 8. 4. 1968, ausgel. 15. 12. 1970, ausgeg. 10. 8. 1971, Priorität USA 17. 4. 1967, 15 Patentansprüche.

Das Textilbehandlungsmittel zum Stärken und Wasser- und Fettabweisendmachen von Textilien enthält wasserlösliche, vorzugsweise dünnkochende Stärke, ein Polymerisat sowie ggf. Lösungs- bzw. Dispersions- und/oder Treibmittel. Als Polymerisat findet ein thermoplastisches Fluorkohlenwasserstoffpolymeres einer polymerisierbaren Verbindung der allgemeinen nebenstehenden Formel Verwendung, worin X ein Wasserstoff-, Chlor- oder Fluoratom oder ein Alkylrest mit 1 bis 8 Kohlenstoffatomen, X_1 ein Wasserstoff-, Chlor- oder Fluoratom, X_2 ein Wasserstoff- oder Halogenatom oder ein Alkylrest mit 1 bis 4 Kohlenstoffatomen, n eine ganze Zahl von 3 bis 30 und m eine Zahl von 1 bis 3 ist, und wobei mindestens 70 %, jedoch mindestens 6 der Reste X, aus Fluor bestehen. Anstelle des Fluorkohlenwasserstoffpolymeren können auch Mischpolymerisate mit Alkylacrylat verwendet werden. G. Graefe



Blattmann & Co, Wädenswil (Schweiz): **Mittel zur Oberflächenleimung von Papier oder Karton.** Österr. Pat. 290 977, angem. 3. 7. 1968, ausgel. 15. 10. 1970, ausgeg. 25. 6. 1971, Priorität Schweiz 21. 5. 1968, 11 Patentansprüche.

Das vorgeschlagene Mittel enthält ein Keten-Dimeres und ein Stärkederivat. Das Keten-Dimere weist die Summenformel $[R-CH=C=O]_2$ auf, worin R ein ggf. substituierter Alkylrest mit mindestens 8 C-Atomen, Cycloalkylrest mit mindestens 6 C-Atomen, Phenyl-, Naphtyl- oder Aralkyl-, insbesondere Benzylrest ist, und das Stärkederivat ist entweder eine gut lösliche Phosphatstärke und/oder eine Mischung aus einem wasserlöslichen, niederviskosen, anionischen oder nicht ionogenen Stärkederivat und einem Dialkalimetallphosphat. Sofern eine niedrigviskose Phosphatstärke verwendet wird, enthält sie vorzugsweise 0,80 bis 1,10 Gew.-% gebundenen Phosphor und 2,5 Gew.-% Phosphor in Form von frei vorliegendem Phosphat. Die Viskosität der Phosphatstärke beträgt in 5 %iger wäßriger Lösung bei 25 °C vorzugsweise 5 bis 10 cP. G. Graefe

Boehringer Mannheim GmbH, Mannheim: **Vorrichtung und Verfahren zur Gewinnung kristalliner Fructose aus methanolischer**

33. STEEL CASTINGS ABSTRACTS

Steel Castings Research and Trade Association
5 East Bank Road, Sheffield S2 3PT - England

1. PATENT DOCUMENTS ABSTRACTED: GB

2. BASIS OF ABSTRACTS: claims, where necessary also full text, one abstract
3. TECHNOLOGICAL FIELDS COVERED: steel castings and related topics, i.e. moulding materials, binders, patterns, casting methods, steel making, metallurgy of steel, plant engineering, welding, cutting
4. ABSTRACT LENGTH: 80 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; name and address of patentee; country of publication; kind of document and document number

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size A5

9. ARRANGEMENT: technological field grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: 116
UP TO 1970: 1,600

11. PERCENTAGE OF PATENT ABSTRACTS: 7.5%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 5-9 months

14. PUBLICATION FREQUENCE: every 2 months

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same issue

16. SUBSCRIPTION FEES: £10 (US$ 26.-) per year, plus overseas postage

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

STEEL CASTINGS ABSTRACTS, Jan./Feb. 1972

166. Means for Measuring the Oxygen Content in Liquid and Gaseous Media

ALLMANNA SVENSKA ELEKTRISKA, A.B., Sweden

British Patent No. 1,232,487.—The oxygen content in liquids, such as molten steel, or gases is determined using a solid wire or rod current collector less than 5 mm thick which supports a 0.001 to 0.5 mm thick layer of metal and its oxide, which serves as a reference system with a known oxygen potential. The reference layer supports 0.01 to 0.5 mm thick oxygen-ion conducting electrolyte layer, at least part of the surface of which is exposed to the medium under test. Maximum time delay between introduction into the medium and obtaining a reading is 3 to 5 s.

167. Method for Adding Additive Agents to Molten Metals

NIPPON KOKAN KABUSHIKI KAISHA, Japan

British Patent No. 1,233,278.—Additives, such as deoxidants, or alloying elements, are introduced into molten steel by mechanically feeding a wire rod into the molten steel at a speed of 0.1 to 15 m/s. The rod has a wire core and an outer covering formed by the additive and a binder, such as a synthetic resin. An inert gas may be blown over the metal surface.

168. An Improved Sampling Mould for Use in Steel Making

MANNESMANN A.G., Germany

British Patent No. 1,235,306.—A mould for sampling molten steel which has two parts, one of which can be inserted into the other, the mould cavity being formed as a recess in only one of the parts. Preferably the parts are made in low carbon steel.

169. Apparatus for Production of Castings

INSTITUT ELEKTROSVARKI IMENI E.O. PATONA AN USSR, U.S.S.R.

British Patent No. 1,237,115.—A casting apparatus comprises a chamber containing a mould connected to a power supply, the chamber having a number of plasma arc torches positioned above the mould to remelt a billet or metal charge. The torches are arranged around the axis of the mould and are positioned to direct the plasma at an acute angle to the axis so as to cause a rotary motion in the molten metal.

170. Improved Stopper for Molten Metal Containers

MAGNESITA S.A., Brazil

British Patent No. 1,237,444.—A ladle stopper consisting of a plug body of refractory material with a centrally disposed cylindrical cavity that is open to one end face and has a flat bottom, a second cavity with a thread at the centre of the flat bottom, and a metal rod having, at one end, a flange and a thread stub. The plug body is screwed onto the stub so that the flange lies closely against the bottom of the first cavity. A ring-shaped sleeve, which surrounds the rod, is accommodated in the first cavity and is so dimensioned that when positioned in the first cavity, the upper edge protrudes above the surrounding edge of that cavity.

See also: No. 10, Laboratory-Scale Electric Induction Furnaces; No. 186, Effect of Deoxidation Practice on Properties; No. 267, Electric Arc Furnace Fume Control.

4. WORLD TEXTILE ABSTRACTS and
SPECIALIZED TEXTILE INFORMATION SERVICE

Shirley Institute, Manchester M20 8RX - England

1. PATENT DOCUMENTS ABSTRACTED: GB and US

2. BASIS OF ABSTRACTS: full text for GB; abstracts for US

3. TECHNOLOGICAL FIELDS COVERED: GB - Int. Cl. D01-D06
US - classes 2, 8, 18, 19, 26, 28, 38, 57, 66, 68, 73, 87, 106, 112, 117, 118, 128, 139, 156, 161, 223, 226, 242, 260, 264, 289 of US classification

4. ABSTRACT LENGTH: majority 30 - 90 words; occasionally up to 150 words

5. BIBLIOGRAPHIC DATA INCLUDED: title; company; inventors; patent number; publication date; application number and date or priority country, number and date

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: yes
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical; two types: single-sided and double-sided page printing, size 24 x 15cm, 8 or 9 point Plantin

9. ARRANGEMENT: sequential numbering inside a subject classification system. Subject, author and patent number indexes produced annually, plus subject indexes produced monthly. Author indexes include company names.

10. PATENT ABSTRACTS PUBLISHED IN 1970: 2,400
UP TO 1970: tens of thousands

11. PERCENTAGE OF PATENT ABSTRACTS: 30% (in 1972 3,000 out of 10,000)

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 4 - 8 weeks

14. PUBLICATION FREQUENCE: twice monthly

15. PUBLICATION SEPARATE OR TOGETHER
WITH ABSTRACTS OF NON-PATENT LITERATURE: separate but in same issue

16. SUBSCRIPTION FEES: World Textile Abstracts £29 (US$ 75.40) p.a. double-sided; £32 (US$ 8.30) p.a. single-sided, plus postage. Data base on magnetic tape (approx. 10,000 document records, plus authors' affiliations and key terms) approx. £500 (US$1,600.-) p.a.

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? yes, all patents covering first inventions in other countries (BE, CA, DL, DT, FR, JA, NL, SU)

WORLD TEXTILE ABSTRACTS, May 15, 1972

Treating Rubber to Enhance Fibre Bonding

Monsanto Co. and E. Morita

USP 3,644,268: 22 February 1972; Application (No. 60,161) 31 July 1971.

Fibre-to-rubber adhesion is enhanced by incorporating into the rubber a formaldehyde donor and a saturated polymer comprising alkylene-bridged resorcinol. [C] 1972/3619.

Process for Improving the Adhesion of Polyester Fibrous Material to Rubber

Collins & Aikman Corporation and R. W. McCullough

USP 3,644,136: 22 February 1972; Application (No. 874,043) 4 November 1969.

Polyester fibres, yarns, or fabrics are treated with halogenated aromatic hydrocarbons at an elevated temperature for a short time, to improve their adhesion to rubber in the production of tyres and conveyor belts. [C] 1972/3620.

Adhesives for Joining Synthetic Fibres to Unsaturated Polymeric Material

Michelin & Cie.

BP 1,267,444: 22 March 1972; Application (France No. 141324) 26 February 1968.

Adhesives, which can be produced economically and allow use of existing plant facilities, for the bonding of polyester or polyamide fibres to rubber during the production of tyres are described. The condensation product of the reaction of resorcinol with a *p*-substituted phenol such as 2,6-dimethylol-4-octyl-phenol is further reacted with formaldehyde to produce a precondensate having terminal resorcinol-methylol groups. This product is mixed with a resorcinol-formaldehyde precondensate and a terpolymer of butadiene/styrene and vinyl pyridine and the resulting mixture is used to coat polyester or polyamide fibres. The fibres are partially dried, after coating, at 100°C and drying is completed between 210 and 240°C under tension. The treated fibres then have an adherent skin which will covulcanize with rubber. [C] 1972/3621.

Carpet Backing Adhesive and Method of Making

Prodesco Inc. and E. F. Kujas

USP 3,645,951: 29 February 1972; Application (No. 864,205) 6 October 1969.

For bonding of carpet yarns to a carpet backing, the specification claims a composition consisting essentially of hydroxy acrylic acid ester latex, melamine-formaldehyde condensate, dodecenyl succinic anhydride and zinc oxide in defined proportions. The method for making the adhesive composition and its use are also claimed. [C] 1972/3622.

Automotive Carpet Backsizing Composition

E. I. Du Pont de Nemours & Co. and R. E. Stahl

USP 3,645,948: 29 February 1972; Application (No. 88,159) 9 November 1970.

The claim is for compositions containing blends of particular ethylene/vinyl ester copolymers and microcrystalline or Fischer-Tropsch waxes having melting points of at least 165°F and needle-point-penetration values of less than 10. Optionally, the compositions can contain a polyolefin such as polyethylene. [C] 1972/3623.

Method for the Manufacture of a Floor Covering with a Pile

DS-Chemie G.m.b.H. & Co. K.G., J. Schabel, and H. P. Liebegott

BP 1,269,165: 6 April 1972; Application (No. 26170/70) 30 May 1970.

A coating on the underside of a pile carpet is applied as a mechanically foamed thermoplastic composition to the rear side of the support material for the pile. This is then heated up to a gelling temperature to make it into a substantially open-pored coating. An anti-foaming agent is first applied to the support material to liquefy the backing in the boundary region near the support material. [C] 1972/3624.

35. TOBACCO ABSTRACTS

D.H. Hill Library
Room 2110, North Carolina State University, Raleigh, NC 27603 - USA

1. PATENT DOCUMENTS ABSTRACTED: US and countries covered by Chemical Abstracts

2. BASIS OF ABSTRACTS: an abstract

3. TECHNOLOGICAL FIELDS COVERED: tobacco - harvesting machinery, treating processes, products manufacturing machinery, packaging machinery; fungicides, herbicides, bactericides and insecticides for treating tobacco in the field and in storage

4. ABSTRACT LENGTH: 100-300 words

5. BIBLIOGRAPHIC DATA INCLUDED: inventor; title; country of publication; kind of document; document number; assignee; source of abstract including volume; number and abstract number or page number

6. CLASSIFICATION SYMBOLS: no

7. CHEMICAL FORMULAE: no
DRAWINGS, DIAGRAMS, etc: no

8. PRINTING ASPECTS: in periodical, on both sides of page, size 5½" x 8½"

9. ARRANGEMENT: technological field grouping

10. PATENT ABSTRACTS PUBLISHED IN 1970: 193
UP TO 1970: -

11. PERCENTAGE OF PATENT ABSTRACTS: 6-7%

12. LANGUAGE OF ABSTRACTS: English

13. PUBLICATION DELAY AFTER ORIGINAL DOCUMENT: 2 - 6 months

14. PUBLICATION FREQUENCE: monthly

15. PUBLICATION SEPARATE OR TOGETHER WITH ABSTRACTS OF NON-PATENT LITERATURE: together

16. SUBSCRIPTION FEES: $7.--/year for US
$10.--/year for other countries

17. ENTRY OR MEMBERSHIP FEE REQUIRED? no

18. COVERAGE TO BE INCREASED IN FUTURE? no

TOBACCO ABSTRACTS, May 1972

520
sequent to the mechanical working operation, the stem material may be sweated to expand the cellular structure. (Abstract)
1378

BORTHWICK, J.; MORMAN, J. F.
Tobacco substitutes. Ger. Pat. Spec. No. 2,114,084, Dec. 23, 1971. 50p.
The title products contained an org. combustible material, e.g. thermally decompd. cellulose (I), sucrose, α-cellulose, or polygalacturonic acid, Na CM-cellulose (II) binder, inorg. fillers, e.g. CaCO-3, MgCO-3, or TiO-2, and softening and moistening agents, e.g. glycerol. Thus, 1.34 parts glycerol in 20 parts H-2 O was added to a mixt. contg. I 5.38, talcum powder 4.26, powd. MgCO-3 7.10, and H-2 O 60 parts. The mixt. was ground, 1.92 parts II and after 15 min stirring H-2 O were added to give viscosity 50,000 cP. The suspension was dried at 150° on a belt-drier of velocity 5.8 m/min, and the film sepd. into fibers. Cigarettes of mild taste made from this material contained I 26.9, II 9.6, glycerol 6.7, CaCO-3 21.3, and MgCO-3 35.5% per dry wt. (Abstract)
Chem. Abstr. 76(11):No. 56825, Mar. 13, 1972. 1379

COOK, W. R.
Adjustable tar removing filter for smokers. U. S. Pat. Spec. No. 3,650,278 to W. Roland Cook Ass., Co. Off. Gaz. U. S. Pat. Off. 896(3):918, Mar. 21, 1972. illus.
A smoke filter for cigarettes, cigars or pipes employs a manually adjustable needle valve stem in combination with a restricted orifice valve seat axially disposed in one end of a cylindrical condensation chamber. Smoke drawn through the needle valve is compressed and accelerated by its passage through the restricted orifice, and then it expands upon entering the condensation chamber where condensed tars are trapped. (From abstract) 1380

CURRAN, J. G.
Delivery of menthol from cigarettes containing either a mentholated filter or mentholated tobacco. Tob. Int. 174(7):67-9(Tob. Sci. 16:40-2), Mar. 31, 1972. graphs, ref., tables.
The objective of this project was to determine: whether menthol migrates from the filter to the tobacco and from the 1381

LIST 2

ANDORRA	AD	GUINEA	GI	AUSTRIA	OE
AFGHANISTAN	AF	GREECE	GR	PERU	PE
ALGERIA	AG	GUATEMALA	GU	PARAGUAY	PG
		GUYANA	GY	PAKISTAN	PK
ALBANIA	AN	HAITI	HI	PANAMA	PM
ARGENTINA	AR	HONDURAS	HO	POLAND	PO
AUSTRALIA	AU	HUNGARY	HU	PORTUGAL	PT
BAHREIN	BB			QATAR	QA
BARBADOS	BD	INDONESIA	ID	CHINA	RC
BELGIUM	BE	ISRAEL	IL	RHODESIA	RH
BULGARIA	BG	INDIA	IN	PHILIPPINES	RP
BHUTAN	BH	IRAQ	IQ	ROMANIA	RU
BURUNDI	BI	IRAN	IR	RWANDA	RW
BOLIVIA	BO	ICELAND	IS	SAUDI ARABIA	SA
BRAZIL	BR	ITALY	IT	BYELORUSSIA	SB
BOTSWANA	BT	JAPAN	JA	SUDAN	SD
BURMA	BU	JAMAICA	JM	FINLAND	SF
CANADA	CA	JORDAN	JO	SINGAPORE	SG
CONGO/KINSHASA	CB	CAMEROON	KA	EL SALVADOR	SL
CAMBODIA	CD	KENYA	KE	SAN MARINO	SM
CHILE	CE	NORTH KOREA	KN	SENEGAL	SN
CONGO/BRAZZAVILLE	CF	SOUTH KOREA	KS	SOMALIA	SO
SWITZERLAND	CH	KUWAIT	KU	SYRIA	SR
IVORY COAST	CI	LAOS	LA	U.S.S.R.	SU
CEYLON	CL	LEBANON	LB	SWEDEN	SW
COLOMBIA	CO	LIBERIA	LR	SOUTH YEMEN	SY
COSTA RICA	CR	LESOTHO	LS	TANZANIA	TA
CZECHOSLOVAKIA	CS	LUXEMBOURG	LU	TRINIDAD AND TOBAGO	TD
CHINA/TAIWAN	CT	LIBYA	LY	THAILAND	TH
CUBA	CU	MOROCCO	MA	TUNISIA	TN
VATICAN STATE	CV	MONACO	MC	TOGO	TO
CYPRUS	CY	MALAGASY REPUBLIC	MD	TURKEY	TR
DAHOMEY	DA	MALI	MJ	CHAD	TS
DENMARK	DK	MALTA	ML	UGANDA	UG
GERMANY (DEM.REP.)	DL	MONGOLIA	MO	U.S.A.	US
DOMINICAN REPUBLIC	DR	MAURITIUS	MS	UKRAINE	UU
GERMANY (FED.REP.)	DT	MAURETANIA	MT	UPPER VOLTA	UV
ETHIOPIA	EA	MUSCAT AND OMAN	MU	URUGUAY	UY
ECUADOR	EC	MALDIVE ISLANDS	MV	VENEZUELA	VE
IRELAND	EI	MALAWI	MW	NORTH VIETNAM	VN
		MEXICO	MX	SOUTH VIETNAM	VS
SPAIN	ES	MALAYSIA	MY	VIETNAM	VT
EGYPT	ET	NICARAGUA	NA	SIERRA LEONE	WL
LIECHTENSTEIN	FL			NIGERIA	WN
FRANCE	FR	NIGER	NI	WESTERN SAMOA	WS
GABON	GA	NETHERLANDS	NL	YEMEN	YE
UNITED KINGDOM	GB	NORWAY	NO	YUGOSLAVIA	YU
GAMBIA	GE	NEPAL	NP	SOUTH AFRICA	ZA
GHANA	GH	NEW ZEALAND	NZ	ZAMBIA	ZB
				CENTRAL AFRICAN REPUBLIC	CR

TABLE WITH MAIN CHARACTERISTICS OF 35 ABSTRACTING SERVICES

erial No.	Annex IIA No.	Catchword	Languages	Abstracts per year	Basis of Abstracts	Average No. of words	Countries covered
1	1	Ref. Zhurnal	R	150,000	FT	75	all
2	31	RAPRA	E	13,329	A	100	2
3	18	Brevatome	EF	10,000	FT/A	70	9
4	21	Organometallics	E	5,000	FT	50	9
5	24	World Paint	E	3,000	A	100	20
6	17	Finishing	E	2,700	FT/A/C/	60	6
7	34	Textile	E	2,400	FT/A	60	2
8	12	Food Science	E	2,000	FT	200	24
9	25	Photography	E	1,250	FT	70	2
10	23	Paint/Resin	E	1,200	FT	250	9
11	20	Nuclear Sc.	E	998	FT/A	100	11
12	15	Hosiery	E	600	FT/A	40	2
13	11	BFMIRA Food	E	454	FT/A	50	5
14	14	Graphics	E	420	A	75	1
15	9	Fluid Power	E	400	FT	100	1 *
16	6	Fertilizer	E	250	FT/A	175	1+etc *
17	26	Platinum	E	214	FT	35	5
18	22	Cont. Paint	E	200	FT	250	9 *
19	35	Tobacco	E	193	A	200	1+etc *
20	7	Fishery	E	168	A	25	1
21	13	Gold	E	160	FT	35	5
22	8	Fluid Feedback	E	145	FT	50	1
23	10	Fluid Sealings	E	134	FT	50	1
24	5	Desalination	E	118	A	120	5
25	33	Steel	E	116	Cl	80	1
26	28	Protein	E	100	FT/A	50	5
27	32	Starch	G	100	FT	110	3
28	29	Pumps	E	98	FT	80	1 *
29	2	Gas Chrom.	E	75	FT	200	3+etc *
30	19	Nucl. Reson.	E	75	FT	200	3+etc
31	30	Research	E(GID)	70	FT	200	6 *
32	3	Liq. Chrom.	E	50	FT	200	3+etc *
33	27	Plutonium	EFG	49	FT	125	all
34	4	Copper	EFGSp	33	FT	88	6
35	16	Marine Eng.	E	17	FT	250	1
				196,116			

*etc - means other unspecified countries

FT - means full text; A - means abstract; Cl. - means claims

D = Dutch; E = English; F = French; G = German; I = Italian;

R = Russian; Sp = Spanish

ANNEX V

ABSTRACTS IN OFFICIAL GAZETTES

Country	Title of Publication / Name of Document Abstracted	Language of Abstract	Publication Delay from Time of First Disclosure of Full Text of Document Abstracted	Publication Frequency	Number of Abstracts published in 1970	Average Number of Words in each Abstract	Form of Abstract	Elements Added					
								Title	Drawing	Chemical Formula	Int. Patent Classification (IPC) Number	National Classification Number	Other Classification Number
AUSTRALIA	The Australian Official Journal of Patents, Trade Marks and Designs / Abridgement of Accepted Complete (Patent) Specification	English	Simultaneous with or up to four years after	weekly	6,130	80	claim	yes	rarely	yes	yes	yes	no
BELGIUM	Recueil des Brevets d'Invention / Resumé de Brevet	French or Flemish	3 years after	monthly	17,098	80	summary	yes	yes	yes	yes	no	no
CANADA	The Patent Office Record / Patent	English or French	simultaneous	weekly	29,193	100	summary	yes	no	yes	no	yes	no
CEYLON	The Ceylon Government Gazette / Accepted (Patent) Specification	English	simultaneous	weekly	54	120	claim	yes	no	yes	no	no	no

Country	Title of Publication / Name of Document Abstracted	Language of Abstract	Publication Delay from Time of First Disclosure of Full Text of Document Abstracted	Publication Frequency	Number of Abstracts published in 1970	Average Number of Words in each Abstract	Form of Abstract	Elements Added					
								Title	Drawing	Chemical Formula	Int. Patent Classification (IPC) Number	National Classification Number	Other Classification Number
FRANCE	Bulletin Officiel de la Propriété Industrielle Abregés Descriptifs Brevet delivré (Loi 1844)	French	4-5 weeks later	weekly	9,000	100	summary	yes	yes	yes	yes	no	no
	Demandes de Brev. d'Inv., de Certif. d'utilité et Certif. d'addition publiées (Loi 1968)	French		weekly	32,500	100	summary	yes	yes	yes	yes	no	no
	Brev. d'Invention Certif. d'utilité et Certif. d'addition delivrés (sans publication préalable) (Loi 1968)	French		weekly	35,000	100	summary	yes	yes	yes	yes	no	no
INDIA	The Gazette of India (Patent) Application Accepted	English	simultaneous	weekly	3,532	50	claim	yes	no	no	no	no	no

Country	Title of Publication / Name of Document Abstracted	Language of Abstract	Publication Delay from Time of First Disclosure of Full Text of Document Abstracted	Publication Frequency	Number of Abstracts published in 1970	Average Number of Words in each Abstract	Form of Abstract	Elements Added					
								Title	Drawing	Chemical Formula	Int. Patent Classification (IPC) Number	National Classification Number	Other Classification Number
IRELAND	The Official Journal of Industrial and Commercial Property / Complete (Patent) Specification Accepted	English	Publication 4 weeks prior to first disclosure of full text	bi-weekly	784	150	summary	yes	yes	no	yes	no	no
ISRAEL	Patents and Designs Journal / (Patent) Application Accepted	English	simultaneously	monthly	1,518	80	summary	yes	yes	yes	yes	yes	no
NEW ZEALAND	New Zealand Patent Office Journal / Complete (Patent) Specification Accepted	English	simultaneous	monthly	3,396	120	summary	yes	yes	yes	no	yes	no
PAKISTAN	The Gazette of Pakistan / (Patent) Application Accepted	English	simultaneous	bi-weekly	1,054 (year 1969)	50	summary	yes	no	no	no	yes	no

Country	Title of Publication / Name of Document Abstracted	Language of Abstract	Publication Delay from Time of First Disclosure of Full Text of Document Abstracted	Publication Frequency	Number of Abstracts published in 1970	Average Number of Words in each Abstract	Form of Abstract	Elements Added					
								Title	Drawing	Chemical Formula	Int. Patent Classification (IPC) Number	National Classification Number	Other Classification Number
PHILIPPINES	Supplement to the Official Gazette / Patent	English	*Publication 12 months after grant	weekly	630	80	* claim	*yes	*yes	*yes	*no	*yes	*no
SOUTH AFRICA	Patent Journal including Trade Marks and Designs / Complete (Patent) Specification Accepted	English	1-2 months later	monthly	6,791	120	claim	yes	yes	yes	yes	no	no
SOVIET UNION	Discoveries, Inventions, Industrial Designs, Trademarks / Patent or Inventor's Certificate	Russian	simultaneous	every ten days	32,466	100	claim	yes	yes	yes	yes	no	yes
			*based on 1969 Official Gazette										

ABSTRACTS IN OFFICIAL GAZETTES

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								Title	Drawing	Chemical Formula	Int. Patent Classification (IPC) Number	National Classification Number	Other Classification Number
UNITED KINGDOM	Patents for Inventions - Abridgements of Specifications / Abridgement of (Patent) Specification	English	simultaneous	weekly	40,995	225	summary	yes	yes	yes	no	yes	no
UNITED STATES	Official Gazette of the United States Patent Office / Patent Granted	English	simultaneous	weekly	64,427	100	summary	yes	yes	yes	yes	yes	no

/End of Annex/

ANNEX VI

ABSTRACTS OF PRIVATE SERVICES EXCLUSIVELY ON PATENTS

Name and Address of Abstracting Service: Name of Publication	Language of Abstract	Countries Covered	Publication Frequency / Publication Delay from Time of First Disclosure of Full Text of Document Abstracted	Type of Documents Covered and Basis of Abstract FT (from full text) A (from abstract) C (from claims)	Technological Field Covered (Classes When Available)	(a) Number of Patent Documents Abstracted in 1970 / (b) Total Abstracted by End 1970	Average Number of Words in each Abstract (not including bibliographic data)	Elements Added: Title	Claim(s)	Summary of Disclosure	Mechanical Drawing	Chemical Formula	Int. Class. No.	Nat. Class. No.	Other Class.	Available Format Paper(size)-P Microform- M Machine-Readable- MR
1. WILA Verlag für Wirtschaftswerbung Wilhelm Lampl Landsbergerstr. 191a, München 12, Germany (F.R.):																
1.1 Auszüge aus den Offenlegungsschriften	German	Germany (F.R.)	weekly / 1 week	C- Offenlegungsschrift (unexamined application) since October 1, 1968	all	(a) 90,000 (b) 230,000	200	yes	yes	no	yes	yes	yes	yes	no	P-A4 + A6 MR-Magnetic Tape
1.2 Auszüge aus den Patentanmeldungen	German	Germany (F.R.)	weekly / 1 week	C- Auslegeschrift (examined application) since September 1, 1958	all	(a) 20,000 (b) 350,000	200	yes	yes	no	yes	yes	yes	yes	no	P-A4
1.3 Auszüge aus den Patentschriften	German	Germany (F.R.)	monthly / 8-12 weeks	C- Patentschrift (patent) since January 1, 1952	all	(a) 13,000 (b) 399,000	200	yes	yes	no	yes	yes	yes	yes	no	P-A6

ANNEX VI

ABSTRACTS OF PRIVATE SERVICES EXCLUSIVELY ON PATENTS
page 2

Name and Address of Abstracting Service: Name of Publication	Language of Abstract	Countries Covered	Publication Frequency / Publication Delay from Time of First Disclosure of Full Text of Document Abstracted	Type of Documents Covered and Basis of Abstract FT (from full text) A (from abstract) C (from claims)	Technological Field Covered (Classes When Available)	(a) Number of Patent Documents Abstracted in 1970 / (b) Total Abstracted by End 1970	Average Number of Words in each Abstract (not including bibliographic data)	Elements Added: Title	Claim(s)	Summary of Disclosure	Mechanical Drawing	Chemical Formula	Int. Class. No.	Nat. Class. No.	Other Class.	Available Format Paper(size)-P Microform- M Machine-Readable- MR
2. Derwent Publications Ltd. Rochdale House 128 Theobald Rd. London WC 1 U.K.:																
2.1 British Patents Abstracts	E	U.K.	weekly / 3 weeks	FT-Accepted Complete Specifications since 1951	all	(a) 40,995 (b) 650,000	150	yes	no	yes	yes	yes	yes	no	yes	P-A4
2.2 French Patents Abstracts	E	France S. Africa India	weekly / 4 weeks	A-Abregés and abstracts as published in official gazettes since 1961	Chemistry Pharmaceutical	(a) 20,000 (b) 100,000	150	yes	no	yes	no	yes	yes	no	yes	P-A4
2.3 German Patents Abstracts	E	Germany (F.R.)	weekly / 4 weeks	FT-Auslegeschrift (published examined application) since 1953	all	estimated (a) 30,000 (b) 180,000	150	yes	no	yes	yes	yes	yes	no	yes	P-A4

ANNEX VI

ABSTRACTS OF PRIVATE SERVICES EXCLUSIVELY ON PATENTS

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2.4 German Patents Gazette	E	Germany (F.R.)	weekly / 4 weeks	FT-Offenlegungs-schrift (unexamined patent application) since Oct. 1, 1968	all	(a) 90,000 (b)230,000	150	yes	no	yes	yes	yes	yes	no	yes	P-A4
2.5 Soviet Inventions Illustrated	E	U.S.S.R.	monthly / 7 weeks	FT-Inventors' certificates and patents since 1961	all	(a) 30,000 (b)121,000	300	yes	no	yes	yes	yes	yes	yes	yes	P-A4
2.6 Japanese Patents Report	E	Japan	weekly / 4 weeks	FT-Examined patent applications since 1962	Chemical	(a) 15,000 (b)108,000	100	yes	no	yes	no	yes	yes	no	yes	P-A4
2.7 Belgian Patents Report	E	Belgium	weekly / 3 weeks	FT-Unexamined patent applications laid open (since 1955)	Chemical Pharmaceuticals Plastics Textiles Metallurgy	(a) 8,000 (b)85,000	150	yes	no	yes	no	yes	yes	no	yes	P-A4

ANNEX VI

ABSTRACTS OF PRIVATE SERVICES EXCLUSIVELY ON PATENTS

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2.8 Netherlands Patents Report	E	Netherlands	weekly / 3 weeks	FT-Unexamined patent applications published (since 1964)	Chemical Pharmaceuticals Plastics Textiles Metallurgy Nuclear Energy	(a) 9,000 (b)50,000	150	yes	no	yes	no	yes	yes	no	yes	P-A4
2.9 AGDOC-Basic Abstract File	E	Australia Belgium Canada France Germany (F.R.) German D.R. Ireland Japan Netherlands South Africa Switzerland U.K. U.S.A. U.S.S.R.	weekly / 1-3 weeks	FT-First issue patents (since 1965)	Insecticides Pesticides Herbicides Fertilizers and related agricultural inventions	(a) 4,000 (b)20,000	350	yes	no	yes	no	yes	no	no	yes	P-A4 M-16 mm MR-Search punch cards and magnetic tape

ANNEX VI

ABSTRACTS OF PRIVATE SERVICES EXCLUSIVELY ON PATENTS

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2.10 FARMDOC-Basic Abstract File	E	Same 14 as under No. 2.9	weekly / 1-3 weeks	FT-First issue patents (since 1963)	Pharmaceuticals	(a) 6,500 (b)45,000	350	yes	no	yes	no	yes	no	no	yes	P-A4 M-16mm MR-Search punch cards and magnetic tape
2.11 PLASDOC-Abstracts Journal	E	Same 14 as under No. 2.9	weekly / 1-3 weeks	FT-First issue patents (since 1966)	Polymer Technology	(a) 30,000 (b)100,000	350	yes	no	yes	no	yes	no	no	yes	P-A4 M-16mm MR-Search punch cards and magnetic tape
3. Japan Patent Center, Inc. Shitaya P.O. Box 72 Tokyo Japan																
3.1 JPC Patent Report	E	Japan	weekly / 10 days	FT-Examined patent applications since Sept. 1967	Motive Power, Machinery, Electric Power, Engineering Works, Atomic Energy, Communication, Photography, Measurement. (Japanese Patent Classification groups IV and VI)	(a)13,000 (b)45,000	100	yes	no	yes	yes	no	no	yes	no	P-A4 approx.

ANNEX VI

ABSTRACTS OF PRIVATE SERVICES EXCLUSIVELY ON PATENTS

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4. Chemical Abstracts Service Ohio State University Columbus Ohio 43210, USA 4.1 Polymer Science and Technology (POST-P)	E	26 countries	bi-weekly / 3 months	patents (since 1967)	Polymer Chemistry	(a) 9,000 (b) 36,000	50	yes	no	yes	no	yes	no	no	no	P-A4 approx. MR-Magnetic Tape
5. Société Française pour la Gestion des Brevets d'Application Nucléaire 25 rue de Ponthieu Paris 8e, France 5.1 La Propriété Industrielle Nucléaire (Brevatome)	F	Australia Austria Belgium Canada Denmark Finland France Germany D.R. Germany (F.R.) Israel Italy Japan Luxembourg Norway Spain Sweden Switzerland U.K. U.S.A. U.S.S.R.	bi-monthly / 6 months	A-patents and applications for patents (since 1958)	Nuclear Technology	(a) 3,600 (b) 50,000	100	yes	no	yes	yes	yes	no	no	no	P-A4

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ABSTRACTS OF PRIVATE SERVICES EXCLUSIVELY ON PATENTS

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Name and Address of Abstracting Service: Name of Publication	Language of Abstract	Countries Covered	Publication Frequency / Publication Delay from Time of First Disclosure of Full Text of Document Abstracted	Type of Documents Covered and Basis of Abstract FT (from full text) A (from abstract) C (from claims)	Technological Field Covered (Classes When Available)	(a) Number of Patent Documents Abstracted in 1970 / (b) Total Abstracted by End 1970	Average Number of Words in each Abstract (not including bibliographic data)	Elements Added: Title	Claim(s)	Summary of Disclosure	Mechanical Drawing	Chemical Formula	Int. Class. No.	Nat. Class. No.	Other Class.	Available Format Paper(size)-P Microform- M Machine-Readable- MR
6. American Petroleum Inst. Central Abstracting Service 1271 Ave. of Americas, New York NY 10020, USA	E	Belgium Canada France Germany (F.R.) U.K. Japan Netherlands S. Africa U.S.A. U.S.S.R.	weekly / 1 month	FT or C- patents (since 1961)	Petroleum Refining Petrochemical Industry	(a) 14,000 (b)120,000	100	yes	yes*	yes*			no			P-A6 M-16mm
6.1 API Abstracts of Refining Patents			/Publication ceased as from January 1, 1972/													

*Claim or Summary of Disclosure

/End of Annex/