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China Report

SCIENCE AND TECHNOLOGY

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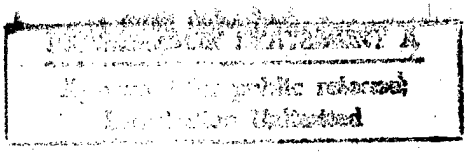

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CHINA REPORT

SCIENCE AND TECHNOLOGY

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CONTENTS

PEOPLE'S REPUBLIC OF CHINA

ABSTRACTS

APPLIED SCIENCES

EXCHANGE CONFERENCE ON GROUP TECHNOLOGY DISCUSSED

Beijing JICHUANG [MACHINERY] in Chinese No 3, 1982 p 48

[Article by Li Peiyu [2621 3099 6877] of the General Design Institute of the First Ministry of Machine Building: "Some Views on the First Academic Exchange Conference on Group Technology"]

[Text] The Production Systems Science Group of the National Machine Processing Society held our nation's first academic exchange conference on group technology on 11 December 1981 at Xiamen. This exchange conference reflected the new developments in the past 2 years in our nation's group technology and the big improvement over 2 years ago. This also shows that our nation's group technology has passed the stage of propaganda and introduction and has entered the stage of conducting research at test points and gaining preliminary experience. The academic papers and technical information exchanged at this conference totaled 67 papers. The contents included several major aspects of group technology from software to hardware.

In product design: The test factories of the First Ministry of Machine Building, the Third Shenyang Machine Tool Plant, the Beijing People's Machinery Plant and the Beijing Hoisting Machinery Plant all compiled volumes of designs of spare parts and preliminary achievements were realized in product design. The next step is to complete the compilation of non-rotary parts following the volume on rotary parts already completed. This will establish a foundation for plans for computer-aided design.

In technology: Besides introducing the methods of compiling the technological flow in group technology and technological documents, the important papers were on grouping and classification of spare parts. For example, the characteristics matrix method of coding classifications of spare parts used by the Shenyang Third Machine Tools Plant and the People's Machinery Plant will help establish a computer data bank for classification of spare parts in our nation in the future. The grouping and matching of unit groups by the Beijing Aviation Academy, the study of the classification system for group technology of spare parts of textile machinery by the Qinghua University, the method of analysis of the production flow of the Shanghai Electrical Machinery Design Academy all proposed definite views on the use of different methods to solve the problem of grouping spare parts. Their proposals all have a definite standard.

In production management: The test factories of the Shenyang Third Machine Tool Plant and the Beijing People's Machinery Plant introduced concrete methods and experience in production management. "The problem of m x n ordering and the arrangement of the operating plans in group technology" published by Qinghua University and the "studies to determine batches in group technology" published by the Changchun Water Pump Plant have provided a theoretical basis for more rational application of group technology.

In computer-aided group technology: The "computer-aided program and system design for group technolgoy" by the First Design Institute of the First Ministry of Machine Building, and "preliminary application of microcomputers in data processing in group technology" by the Second Design Institute of the Ministry of Farm Machinery explored the use of the computer (especially microprocessors) in group technology which could provide various means of data processing by computers in factories and many plans for comparison. They have a broad adaptability and practical value.

In hardware design and research: The "design and application of group fixtures and group dies" of the 116 Plant of the Third Ministry of Machine Building, "design of machine tools for group processing" of the Second Automobile Manufacturing Plant, "group technology and adjustment fixtures" of the Nanjing Machinery Research Institute, "group processing machine tools and standardization of group fixtures" of the Shanghai Electrical Machinery Design Institute all have their value, and their standards are not low.

Participants included 15 provinces and cities and 10 ministries and bureaus. In most of these provinces, cities, ministries and bureaus, the machinery bureau and the science and technology department (bureau) organized test points in their own provinces, cities, ministries and bureaus. For example, the test factory of the First Ministry of Machine Building and the Beijing People's Machinery Plant cooperated with the Designing Department of the General Designing Institute of the First Ministry of Machine Building. They conducted four separate overall tests at the third subsidiary plant and they obtained welcomed results. This year, they will complete readjustment of all rotary parts, and non-rotary parts will be readjusted in 1983. Studies have been carried out in product design, production management and the application of microprocessors. It is planned that by 1983, improvements in group technology at the plant will be completed. The Second Jinan Machine Tool Plant has cooperated with the Sixth Designing Institute of the First Ministry of Machine Building of the Hefei Industrial University. They plan to complete work at the test point by 1983. Hubei Province has established test points at the First Machine Tool Plant in Changsha City, Beijing City has established a test point at the First Machine Tool Plant, and Guangzhou Cith has established a test point at the Guangzhou Machine Tool Plant. In addition, the Third Ministry of Machine Building, the Fourth Ministry of Machine Building, the Coal Ministry, the Farm Machinery Ministry and Shanghai City and Sichuan Province also have their own test points units.

Although many factories are not test factories, they also have taken the initiative to study and utilize group technology. The above situation shows that group technology is already being gradually recognized and emphasized by

all. Everyone has recognized that group technology is the necessary road of technical improvement in enterprises engaged in medium and small batch production. To change the backward situation in production by enterprises engaged in medium and small batch production of many varieties of products in our nation's machinery profession, we must utilize group technology. Group technology is emphasized by everyone because it not only can expand batch production and thus utilize more advanced technologies, reduce the percentage of waste products, improve product quality, shorten the production cycle, reduce accumulation of products in production and floating capital, shorten transportation routes of spare parts, reduce transportation cost, realize the best material flow, reduce product cost, improve productivity rate, it can also be used in the design of products after a classification and coding system for spare parts has been implemented, so that product design can realize the best three izations. This can greatly reduce the amount of work involved in preparing design blueprints (generally this can be reduced by 50 to 75 percent) so that product design can be hastened, and the rate of renovating products and the competitive ability of products can be improved. At the same time, a foundation for the utilization of computer management can be established in production management. Group technology is an aspect of systems engineering that includes product design, technology and production management. It is a science that penetrates deeply into all departments of the enterprises and that realizes overall technical improvement of the enterprises. Group technology, technically speaking, has far surpassed the scope of machinery processing. In the world, it has already been applied in casting, forging, welding, punching, heat treatment and assembly. Group technology is the foundation of CAM, CAD, FMS and CAPP. The study of material flow of enterprises engaged in medium and small batch production cannot be separated from group technology.

At present, our nation's group technology is in a stage of having group technology without using codes, while the Soviet Union began using codes at the beginning of the 1950's. When using a classification and coding system for spare parts, because of the lack of a classification software package (the characteristic matrix of classification), there is a definite difficulty in classifying spare parts, therefore many factories use the method of classification without coding. To realize a definite gain in technology and production, this method is acceptable during the transition stage. To enable the whole factory to realize overall gains and to use group technology in technology, in product design, in production management and in computer-aided operations, we must use a classification and coding system for spare parts. Therefore, our nation's promotion of group technology should surpass the stage of group technology without coding and should advance towards the goal of a coding system. We should utilize the period of readjustment to design a coding system and at the same time carry out related software research and design, make technical preparations well and make preparations for popularization and for providing consultation in group technology in our nation in the future. In addition, the application of microprocessors in group technology should be included as a key point. This is because when using a coding system, the compilation of statistics and computation of massive amounts of data, especially in production management, will not be possible without a computer. The microprocessor is

economical, and it is easy for medium and small enterprises to acquire. According to the present situation, group technology in our nation is still in a testing and research stage. Only by summarizing the overall experience can its popularization be facilitated. At present, technical preparations should be done well to provide good council for the use of group technology by more enterprises in the future.

9296
CSO: 4008/151

TUMOR INSTITUTE PUBLISHES CANCER STATISTICS

Shanghai JIEFANG RIBAO in Chinese 13 Apr 82 p 1

[Article by Wang Minmin (3769 2404 2404): "Statistics of the Municipal Tumor Institute Indicate Different Findings Depending on Whether or Not Tumor Prevention Has Been Instituted -- The Incidence of Cancer of the Cervix Has Decreased by Half Whereas the Incidence of Lung Cancer Among Men Has Risen Eighty Percent"]

[Text] The case statistics published most recently by the Shanghai Municipal Tumor Institute on registered reports of malignant tumors for the city as a whole over the past fifteen years indicate that there has been a decrease of close to 60 percent in the incidence of cancer of the cervix, with a decrease in the mortality rate of 52 percent, whereas there has been an increase in the incidence of lung cancer among men of 80 percent. Tumor specialists stress that these contradictory data are a full indication of the fact that prevention and lack of prevention have different consequences and that it is to be hoped that vigorous preventive measures will be taken against the principal known cause of lung cancer -- cigarette smoking.

Because there are fixed fluctuations in the incidences of malignant tumors from year to year, it is only by means of data accumulated over long periods that it is possible to obtain a true reflection of the state of occurrence of various types of malignant tumors. Under the unified leadership of the Municipal Public Health Bureau, this city has since 1963 operated a system of registering and reporting new cases of and cases of deaths due to malignant tumors through the medical facilities and sanitation and antiepidemic stations at the district level and above throughout the entire city. To date, the Shanghai Municipal Tumor Institute has gathered and accumulated data on occurrences of tumors and deaths over the past 20 years.

The epidemiological data on tumors that have been provided by the Tumor Registration and Reporting Office of this city have come to be regarded with the respect and interest of the World Health Organization. Internationally, there is published each year a collection of data entitled "Incidences of Malignant Tumors in Five Continents." The fourth volume, which was published this year, includes our data on occurrences in Shanghai City.

10019
CSO: 4008/167

NEW DISCOVERIES IN CHROMOSOME DAMAGE IN NEWBORNS REPORTED

Beijing JIANKANG BAO in Chinese 22 Apr 82 p 1

[Article by Liu Xiaochung (0491 4562 2504): "Department of Medicine and Genetics of Hunan Medical College Makes New Discoveries in Survey of Chromosome Damage in Newborns"]

[Text] Most recently, the Department of Medicine and Genetics of Hunan Medical College conducted a survey of chromosome damage in more than 3000 newborns and published their initial results.

In order to investigate the distribution and laws of occurrence of chromosome damage among the masses, the Department of Medicine and Genetics of Hunan Medical College has since May 1979 performed analyses of the umbilical cord blood of more than 3000 newborns born at the Sanjia Hospital in the northern district of Changsha City using the type G umbilical cord chromosome display technique. Of 2079 specimens that have been analyzed, 15 cases of chromosome abnormality have been discovered. Twelve types of chromosome abnormality involving 13 cases were discovered for the first time in this country. There were 6 cases that were the first reports of their kind in the world.

In the course of the survey, the research workers conducted studies and analyses of the causes that produced the chromosome abnormalities in the newborns. They discovered that there were evident familial genetic histories and that there were new mutations closely related to the work in which the parents were engaged. This research has provided the most direct and most basic survey materials relating to environmental protection, prevention of chromosome damage and family planning in our country and has made a new contribution to studies of the incidence of chromosome abnormalities among the masses of China.

10019
CSO: 4008/167

BURN AND PLASTIC SURGERY CONFERENCE HELD IN SHANGHAI

Beijing GUANGMING RIBAO in Chinese 7 Jun 82 p 1

[Article: "A New Treatment for Burn Victims"]

[Text] Material provided by the All China First Burn and Plastics Conference has shown that this year China has made a new breakthrough in treating victims who have special localized burns on the head, hands, esophagus and respiratory tract.

China has been in the leading ranks of the world for more than 20 years in the treatment of large area burns. With the continuous rise in success in saving burn victims over the last several years many Chinese hospitals have carried out thorough research on the problem of how to improve and restore life and work capabilities to sufferers. Along with saving the victims, plastic surgery was also done so that many severely burned victims could gradually take care of themselves and begin work again after leaving the hospital.

The transplanting of the greater omentum and skin-grafting of the skull for serious electrical burns was successfully developed and used by the Burn Department of the Jishuitan Hospital in Beijing and the Trauma Orthopedics Research Institute in Beijing. In the past, this type of burn victim had to have the necrotic skull removed which caused a great deal of pain. At the end of 1979, when they performed this surgery on a victim with serious electrical burns on the skull, they only removed a small amount of sclerite on the surface layer and left the lower layer of necrotic skull. Afterwards, the transplanted greater omentum covered the skull, the skin-graft repaired the wound surface and the surgery was completed. This victim recovered 11 days after surgery and in the more than 2 years since returning to work says that he feels fine.

Several hospitals in China have used forearm skin-grafting surgery to reconstruct facial burn deformation treatment results were excellent. According to statistics for the General Hospital of the Shenyang military area, in the past 2 years, this hospital has performed 59 cases of forearm skin-grafting recreating noses and eye sockets, joining the face and neck and repairing face and jaw atrophy. Among these, 56 cases were successful.

In the past, most vicitms with electrical burns resulting in necrosis in the blood vessels and nerves of the forearm would have the limb removed whether or

not the palm and fingers were intact. In the last several years, Beijing, Shanghai and People's Liberation Army hospitals have used microsurgery techniques for skin-grafting as early as possible when treating burn victims and also for rebuilding the forearm's blood circulation and nervous system. In this way, they avoid removing the hand. After the wound heals the use of the hand can be restored.

Recently, the Burn and Plastic Surgery Conference was convened by the China Medical Association in Shanghai. Over 300 scientific papers were exchanged at the conference. The papers included those by the No 3 Military Medical University of the People's Liberation Army on the manufacture and experimental research on heavy respiratory tract steam burns of animal models, and those by units of the Ruijin Hospital and No 9 People's Hospital of Shanghai on the preservation of xenogenic skin and heterogenic skin (piglet skin) and its application in treating burns as well as papers on the reconstruction of the penis and transplanting the small intestines to rebuild the esophagus. These papers were all original and of a high scientific level.

9480
CSO: 4008/185

RESEARCH ON ARTIFICIAL BLOOD NOTED

Shanghai JIEFANG RIBAO in Chinese 11 May 82 p 4

[Article by Liu Debao [2962 1795 1405]: "Extracting 'Blood' From Petroleum"]

[Text] Since the beginning of this century, petroleum has opened up a broad new field of organic synthesis. Yet, the ability to extract blood from petroleum is a marvel of modern science. China, Japan and the United States have conducted clinical experiments and to date over 300 patients have been brought back to life by infusions of this type of artificial blood.

Petroleum is a hydrocarbon; hydrogen and carbon make up 96 to 99 percent of petroleum. After hydrogen atoms and carbon atoms undergo chemical combination and decomposition they form a multitude of chemical compounds with other elements. In these compounds, under special conditions, carbon and hydrogen produce violent reactions with fluorine. After fluorine atoms "drive out" the hydrogen atoms in the compound, they combine with the hydrogen atoms in the compound to form a fluorocarbon compound and after entering an emulsifier, a milk type emulsion is formed called a fluorocarbon emulsion.

The properties of carbon fluoride emulsion are stable and possess excellent oxygen dissolving abilities. In the human body, more than ten thousand red blood cells grow and die each second. To maintain this type of metabolism the body must rely on the hemoglobin in each red blood cell to send oxygen to the blood and excrete carbon dioxide from the blood. Whenever a large amount of blood is lost anemia or respiratory difficulties cause anoxia. Also, when the ability of the blood to send oxygen is weak, use of a carbon fluoride emulsion can cause the red blood cells in the human body to rapidly recover the ability to send oxygen. Its ability to carry oxygen is twice as great as that of hemoglobin and it only requires 14 to 16 milliseconds (1,000 milliseconds is equivalent to 1 second) to be able to completely dissolve and release oxygen. Hemoglobin, however, requires 90 milliseconds to complete this task. Because the diameters of its corpuscles are small its size is only one-hundredth that of a red blood cell. Therefore, it can very quickly reach the blood capillaries which do not allow red blood cells to pass through. This provides timely help for emergency treatment.

Because this type of artificial blood is a chemical product and is not a living substance it is easy to store. Human blood must be kept cold but carbofluorine chemical compounds do not require cold storage and thus can be preserved for many years. Moreover, it can disinfect and thus prevent hepatitis and other infectious diseases. It is not divided into blood types and so everyone can use carbofluorine artificial blood.

Based on experiments, when a rat is immersed in carbon fluoride solution it dies before it suffocates. Japanese scientists replaced 90 percent of a dog's blood with fluorocarbon emulsion and the dog remained in good health. Under emergency conditions, 50 Japanese patients used this blood substitute and the results were excellent. At present, the extraction of artificial blood from petroleum still requires continuous research as regards its nutritional material, maintenance of human body growth equilibrium, immunity and [coagulated (?)] blood so as to make it even better.

9480
CSO: 4008/185

PROVIDING SCIENTIFIC BASIS FOR PREVENTING DISEASE

Beijing JIANKANG BAO in Chinese 4 Apr 82 p 2

[Article by Huang Zemin (7806 3419 3046) and Du Shaoyong (2629 4801 7167): "For Two Years Our Nation's Epidemiology Workers Have Monitored Practice to Provide a Scientific Basis for Establishing and Modifying Disease Prevention"]

[Text] Over the past two years our nation established 30 urban and rural long-term disease monitoring points in 13 provinces and cities and have engaged primarily in monitory acute infectious diseases among more than 3 million persons, with more than 300 thousand samples of scientific data having been collected. This has been the first major systematic practical exercise on the part of our nation's epidemiology workers since the founding of the nation.

Monitoring of diseases involves observing trends in the distribution of diseases in one place and in several places and continually providing scientific data in order to establish and modify measures for preventing various diseases and the bases for their implementation. Although our nation's sanitation and epidemic prevention sectors have carried out some disease monitoring work in the past, this work has not been systematized or institutionalized. In addition, no scientific evaluations by means of monitoring were made of the epidemic prevention measures that were adopted, and, for this reason, forward-looking epidemiology research work has not been developed. In 1978, the Epidemiology and Microbiology Institutes of the Chinese Academy of Medical Sciences proposed a tentative plan for establishing long-term disease monitoring points. In 1979, they cooperated first with the Sanitation and Antiepidemic Station in the Dongcheng District of Beijing City in conducting tests, with long-term forward-looking observations being carried out in a district with a population of close to 100 thousand persons. After the firsthand data were obtained, the Epidemiology Institute cooperated with sanitation and antiepidemic stations in 13 provinces and cities in establishing 30 urban and rural long-term disease monitoring points. Observations were made of the circumstances of occurrence of 16 types of infectious diseases in a population of more than 3 million 60 thousand persons. A preliminary clarification was made of trends in the distribution of these diseases. At the same time, monitoring of information about epidemics and studies of failures to report occurrences of infectious diseases were carried out. Last year, observations were made at these monitoring points on close to 3 million 850 thousand persons, with data on the incidences of

17 types of acute infectious diseases being obtained. A survey was made of failures to report acute infectious diseases among 450 thousand persons, with ratios of failure to report infectious diseases in the cities and rural villages of the nation as high as 37.7% and 31.2% being discovered. This indicates that that the system of reporting acute infectious diseases in our urban and rural areas is in urgent need of strengthening. As the result of the survey of ratios of failure to report, the reported incidences at the monitoring points were corrected and we obtained estimated actual incidences of various types of acute infectious diseases. Last year, the monitoring points conducted a survey of paralytic sequelae of poliomyelitis among 3 million 510 thousand persons, finding a total incidence of sequelae of as much as 1.2%. It was found that 88.7% of the patients with sequelae had not taken poliomyelitis vaccine. In addition, the monitoring points also surveyed the status of preventive inoculations among 1 million 980 thousand persons and registration of reports of causes of death among 3 million 850 thousand persons. Determinations were also made of levels of immunity among the masses. The data obtained will be of great value in formulating measures for preventing and controlling infectious diseases.

Most recently, the Ministry of Public Health held an all-China disease monitoring conference at which work experiences were exchanged. The Vice-Minister of Public Health, Zhang Huangshu [1728 7806 2885], attended the conference and presented an address.

10019
CSO: 4008/167

AUTHOR: BAO Yucheng [0545 5940 2052]

ORG: None

TITLE: "The Board of Directors (Expanded) of Shanghai Municipal Society of Communications Convened"

SOURCE: Shanghai DIANZI JISHU [ELECTRONIC TECHNOLOGY] in Chinese No 5, 20 May 82 p 27

ABSTRACT: The Shanghai Municipal Society of Communications called a Board of Directors meeting in the afternoon of the 19 Feb 82. It was chaired by the Chairman of the Board CHEN Xingyan [7115 2502 1484]. Winners of the papers submitted to the 1980 Annual Conference were announced and five of these were selected to participate in the essay competition of the Shanghai Municipal Science Association. The Vice Chairman of the Board, Prof. ZHANG Xu [1728 3563] handed the award certificates and the bonus money to the authors of 16 papers. The Secretary of the Society, ZHAO Zhangming [6392 1757 2494] invited these authors and some liaison officers to a meeting to solicit their opinions concerning the work of the society for 1981 and future scientific activities. Photos were taken of the members of the First Board of Directors, authors of the winning papers, and those who participated in the scientific activities.

AUTHOR: HONG Hua [1347 5478]

ORG: None

TITLE: "CL Series Photoelectric Components Successfully Made in Suzhou"

SOURCE: Shanghai DIANZI JISHU [ELECTRONIC TECHNOLOGY] in Chinese No 5, 20 May 82 p 41

ABSTRACT: In order to meet the needs of new generation digital meters, the Suzhou Semiconductor Main Plant, with the cooperation of Nanjing Telecommunication Instrument Plant, et al, has successfully made the CMOS-LED photoelectric component display device, the design of which has recently been certified. This type of photoelectric component is the first in China and will open up a new realm for digital display. Its advantages include low power consumption, bright, small, long lasting, and convenient to use. It will serve as the new device for the final stage digital display of electronic instruments, automatic control devices, and computers to provide a favorable condition for simplifying the circuit structure of the entire instrument, making it smaller, reducing the time required to make the instrument, and improving its reliability. The Certification Conference regarded this type of CMOS-LED photoelectric component to be the direction of development of the semiconductor photoelectric digital display technology and recommended its extension and application.

6248
CSO: 4009/349

AUTHOR: ZHU Xian [0504 6343]

ORG: None

TITLE: "The 495QA High Speed Light Weight Vehicle-Use Diesel Engine Completes Certification"

SOURCE: Shanghai NEIRANJI GONGCHENG [CHINESE INTERNAL COMBUSTION ENGINE ENGINEERING] in Chinese No 2, 15 Jun 82 p 85

ABSTRACT: On 23-27 Mar 82, the Yunnan Provincial Department of Machinery called a New Products Provinical Level Certification Conference in Kunming to examine the 495QA diesel engine, produced jointly by the Yunnan Internal Combustion Engine Plant and the Shanghai Internal Combustion Engine Research Institute; 72 representatives of 40 management departments, scientific research units, schools of higher education, and production and operational departments participated. The maximum power of this engine is 72PS/3200rpm, with a maximum torque of 18kgf·m/2100rpm, an external size of 881 x 642 x 757 mm, a total weight of 310 kg, and a minimum fuel consumption rate of 187 g/PS·h. The representatives seriously examined the product diagrams, the technical data, the engine properties, the work procedure documentation and installations and concluded that the quality of the product is stable and the equipment of Yunnan Internal Combustion Engine Plant is satisfactory for producing it in batches. After close to 2 years of designing, experimenting, and test production, the engine has been proved to meet the requirement of light weight motor vehicles and other power machines.

AUTHOR: CHEN Hao [7115 3185]

ORG: None

TITLE: "The New 300 Series Medium Speed Diesel Engines Designed in China Has Been Made Suffessfully"

SOURCE: Shanghai NEIRANJI GONGCHENG [CHINESE INTERNAL COMBUSTION ENGINE ENGINEERING] in Chinese No 2, 15 Jun 82 p 86

ABSTRACT: The certification conference for the new 300 series 6 and 8 cylinder diesel engines was held in Wuxi on 3-7 Apr 82. The conference was organized by the Ministry of Agricultural Machinery, the Ministry of Machines No 6, the Ministry of Transportation, the National Bureau of Standards, the National Bureau of Marine Products, etc. and 141 delegates representing 80 organizations attended. This series of diesel engines are products of joint research by Shanghai Research Institute of Boat-use Diesel Engines, Wuxi Diesel Engine Plant, Ningbo Power Machinery Plant, Changhang Science Research Center, Guangdong Fishing Boat Plant, etc. The research took 7 years and 9 months. The design indices of these engines are 1000 PS for the 6 cylinder engine, and 1350 PS for the 8 cylinder engine; the mean effective pressure is 14.15 kgf/cm^2; the fuel consumption rate is 160 g/PS.h. The number of cylinders may be added in the future and the rotation speed changed to raise the power to 5300 PS. The conference suggests that the lubricant consumption rate should be further reduced, the use of heavy diesel oil should be experimented further, and the reduction of noise and vibration and the utilization of residual heat should also be studied further to raise the quality of the products.

6248
CSO: 4009/348

AUTHOR: None

ORG: The Secretariat, Chinese Society of Mechanical Engineering Nondestructive Testing Society

TITLE: "The Second Annual and the First [Plenum] Expanded Conference of Directors of the Nondestructive Testing Society of Chinese Society of Mechanical Engineering was Held in Beijing"

SOURCE: Shanghai WUSUN JIANCE [NONDESTRUCTIVE TESTING] in Chinese No 3, Jun 82 p 46

ABSTRACT: The Second Annual Expanded Conference of Directors was held in Beijing on 3-4 Mar 82 and 45 members attended. There was first a brief report of the 30th Anniversary Meeting of the Society of Mechanical Engineering. The various specialty groups and committees discussed and formulated their activity plans for 1982 and 31 items of scientific exchange and activities were proposed for the years 1983-85. Following some negotiations, the composition and the persons in charge of these groups and committees were duly readjusted. The composition of the delegation to the 10th Annual International Conference of Nondestructive Testing was decided upon and sent to the Society of Mechanical Engineering for approval. For the purpose of guaranteeing the quality of industrial products, their safe transportation, and of meeting the requirements of foreign trade and foreign technical and economic cooperation, the problem of training and qualifying technicians of nondestructive testing should be given urgent attention. It was suggested at the conference that internationally accepted standards and examination procedures should be adopted.

6168
CSO: 4009/347

AUTHOR: None

ORG: The Steel Rolling Science Committee, Chinese Society of Metals

TITLE: "First Conference of Metal Products Technology"

SOURCE: Beijing GANGTIE [IRON AND STEEL] in Chinese Vol 17 No 5, May 82 p 77

ABSTRACT: The First Conference of Metal Products Technology of the Steel Rolling Science Committee of Chinese Society of Metals was held in Hangzhou 1-6 Dec 81. After more than one year of preparation, the conference received 35 papers and 11 of them were read at the meetings. The delegates believed that it is important to speed up the modernization process of steel and iron technologies and were especially interested in the direction of development of steel wires and related products. The conference recommended 9 papers on the subject. Discussions centered upon improving the quality of products, expanding the varieties of products, reducing the energy consumption and the cost of production, satisfying the needs of various departments of the national economy for development and for entering the international market. The following were believed to be essential: (1) Wire rolling machines should be built and reconstructed to enable them to produce wires of ϕ 5.5mm and weighing above 500kg/tray; (2) oxidation-free and microoxidation heat treatment should be developed; (3) Lubricating and cooling conditions should be improved to lengthen the life of molds; (4) The product structure of steel wire cable should be changed; (5) Research on plated steel wires should be strengthened; (6) The blank of alloy steel wires should be filled; (7) Advanced testing instrument should be provided. (8) More market research; (9) Establishing specialized research units.

AUTHOR: TANG Xuwen [0781 4958 2429]

ORG: None

TITLE: "National Superconduction Technology Discussion Meeting"

SOURCE: Beijing GANGTIE [IRON AND STEEL] in Chinese Vol 17 No 5, May 82 pp 77-78

ABSTRACT: The National Symposium on Superconduction, jointly organized by the Chinese Society of Metals, the Chinese Society of Physics, and the Chinese Refrigeration Society, was held in Beijing 11-15 Dec 81. Participants included 150 delegates of more than 90 organizations, and 117 papers were received. The delegates were divided into 4 groups of superconductive materials, magnets and their application, weak charge devices, and refrigeration technology for the purpose of discussion. There have been extensive research studies in all the 4 technologies and good results have been obtained, but the development is by no means balanced. Regarding superconductive materials, foreign standards have been basically reached and such materials as NbTi, Nb_3Sn, and V_3Ga have been studied since the early 70's and at present all are being produced in small batches. Regarding aspects of application, superconduction has been commercialized in foreign countries; and China is still a great distance behind and more work is needed. The first small nitrogen liquefaction installation in China has been produced by the Research Institute of Physics Chinese Academy of Sciences in the 50's and currently there are 40 such installations in the country. Proposals of studying magnetic selecting machine and application of superconduction in weak charge aspects were considered at the symposium.

AUTHOR: CHEN Luyin [7115 4845 5419]

ORG: None

TITLE: "The Second Annual Technological Economics Conference Held in Wuhan"

SOURCE: Beijing GANGTIE [IRON AND STEEL] in Chinese Vol 17 No 5, May 82 pp 78,46

ABSTRACT: The Metallurgical Technological Economics Committee of Chinese Society of Metals held its second annual conference in Wuhan 28 Dec 81 - 2 Jan 82 and 125 delegates participated. The conference received 13 papers; 12 of these on "Management of Engineering Items in Industrial Management," "Preliminary Method of Market Research and the Research on Steel and Iron Markets in China," "A Strategy for the Full Development of 1.7 m Rolled Steel," "Strengthening Industrial Management to Improve the Economic Benefits of Jiangxi Tungsten Mine," etc. were recommended by the conference as superior papers. The comrades of the Mining Group proposed that problems of laws regulating mine workers, the wage policy, and the price policy should be studied in the future. The Colored Metal Group suggested that the development of a lead industry should be given preference in China. All participants felt that in view of the fact that the work of technological economics is being emphasized by both the central and the local jurisdictions, the team of specialists of technological economics cannot catch up with the development of the metallurgical industry in China; therefore, the committee should emphasize the training work of this field.

6168

CSO: 4009/346

AUTHOR: FENG Sheng [7364 3932]

ORG: None

TITLE: "Excerpts of Papers of the First Technological Conference of Pit Prespecting' Engineering"

SOURCE: Beijing TANKUANG GONGCHENG [PROSPECTING ENGINEERING] in Chinese No 3, 20 Jun 82 pp 3-7

ABSTRACT: The First Technological Conference of Pit Prospecting of the Committee of Prospecting Engineering Specialty of Chinese Geological Society was held in Wuhan on 11 Nov 81; 162 delegates representing departments of metallurgy, construction materials, electric power, railways, transportation, and geology of 24 provinces attended. The conference received 85 papers; 82 of these were accepted and 45 read at the meetings. In the past 32 years, a total of 8 million meters of tunnels, 8 million m of shallow wells, and 179 million m^3 of deep trenches were dug and 1.2 million m were advanced with sample-taking drills for prospecting. The papers presented to this conference represent the crystallization of the experience and scientific research studies of China's scientists, educators, and workers of this field. Short excerpts of these papers are collected in the paper.

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ORG: None

TITLE: "Excerpts of Papers of the Special Subject Symposium of Percussion Rotary Drilling"

SOURCE: Beijing TANKUANG GONGCHENG [PROSPECTING ENGINEERING] in Chinese No 3, 20 Jun 82 pp 27-31

ABSTRACT: The Chinese Geological Society Prospecting Engineering Specialty Committee called a Percussion Rotary Drilling Symposium in Changsha of Hunan Province 28 Oct to 1 Nov 81 and 98 delegates attended. The symposium received 28 papers and 23 of these were delivered at the meetings. Contents of the paper included hydraulic percussion bit design, improvement, and theoretical computation, properties and condition of experiment of various types of percussion devices, selection of drill parameters and operation formulas, improvement of the quality of abradant and increasing the types of drill bits, research studies on related equipment, accessories, tools, instruments, and meters, and new subjects in hydraulic percussion drilling in need of further study and development. Research and application of hydraulic percussion drilling have been carried out in China by 57 scientific research, schools of higher education, and production organizations and a total of 120 thousand m of drilling has been accumulated. The depth of the largest hole was 605 m and the most efficient drill had an efficiency of 1457.6 m/month. Short excerpts of the papers are given.

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