ACC NR: AP6021831 SOURCE CODE: UR/0413/66/000/012/0171/0171

INVENTOR: Girshovich, M. G.; Kilyakov, A. D.; Kozhevin, I. A.

ORG: None

TITLE: Stocks for assembling cylindrical and tapered aircraft sections. Class 87, No. 183136

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 171

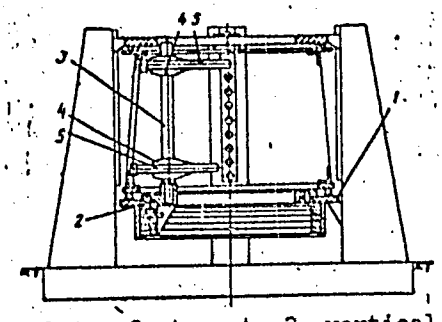
TOPIC TAGS: aircraft industry, aircraft fuselage, aircraft maintenance equipment

ABSTRACT: This Author's Certificate introduces: 1. Stocks for assembling cylindrical and tapered sections and other similar structures. The section end ribs rest on joint rings which are fixed to mutually parallel horizontal support plates. The lower plate is fixed while the upper plate can be moved. These plates are located between vertical columns which in turn are rigidly fixed to a stationary base. Setup time is cut during changeover from one type of assembly to another, and the number of required tools and attachments is minimized by equipping the stocks with a coordinate unit consisting of a lower support plate with a turret which can rotate about the vertical axis, a vertical bar which is fixed at the turret end and other supports which have horizontal bars. Each of these bars may be moved in a horizontal direction and carries a working tool such as a holding device or a trimming head. 2. A

UDC: 621.757:629.13.012.2

Card 1/2

modification of this device with a vertical bar equipped with a vernier scale. 3. A modification of this device for cutting setup time during assembly of periodically repeated batches of aircraft sections. The horizontal and vertical bars are equipped with slats, the lower support plate is fitted with rings, and the supports and turret have jig guides for boring index pin holes in the slats and rings.



1—lower support plate; 2—turret; 3—vertical bar; 4—supports
5—horizontal bar

SUB CODE: 61,13/ SUBM DATE: 01Feb65

Card 2/2

SAVIN, L.Ye.; TANASHEV, R.I.; KILYAKOV, A.M.; GORODETSKIY, M.S.; KAMINSKIY, R.M.; KHAR'KOV, V.I., nauchn. red.; KARAVASHKIN, S.I., red.

[Work practices of the Verkhovskiy Logging Camp] Opyt raboty Verkhovskogo lespromkhoza. Moskva, TSentr. nauchno-issl. in-t informatsii i tekhniko-ekon. issledovanii po lesnoi, tsellyulozno-bumazhnoi, derevoobrabatyvaiushchei promyshl. i lesnomu khoz., 1964. 28 p. (MIRA 18:4)

L 10285-63 EWP(j)/EPF(c)/EWT(m)/BDS--ASD--Pc-4/Pr-4--RM/WW/MAY

ACCESSION NR: AP3000751 S/0020/63/150/003/0566/0569

AUTHOR: Razuvayev, G. A. (Corr. member AN SSSR); Latyayeva, V. N.; Maly"sheva, A. V.; Kilyakova, G. A. 66

TITLE: New phenyl derivatives of Ti

SOURCE: AN SSSR. Doklady, v. 150, no. 3, 1963, 566-569

TOPIC TAGS: phenyl derivatives of Ti, PhTiCl sub 3 and Ph sub 2 Ti formation, decomposition of PhTiCl sub 3, decomposition of Ph sub 4 Ti, thermal stability of Ph sub 2 Ti

ABSTRACT: Phenyl derivatives of Ti have been synthesized for the first time by maintaining the reaction shown in formula (1) of Enclosure at approximately 90C. Of the Ti derivatives, only Ph sub 2 Ti, the first covalent metalloorganic compound of divalent Ti, was isolated in pure form. The formation of PhTiCl sub 3 (I) was confirmed by the following reactions: 1) the reaction shown in formula (2) of Enclosure; 2) decomposition of I to form diphenyl and TiCl sub 3; and 3) decomposition of I in C sub 14-tagged benzene to diphenyl

Card 1/3

L 10285-63
ACCESSION NR: AP3000751

containing no C sup 14. The formation of diphenyl prompted the study of reactions of TiCl sub 4 with varying amounts of Ph sub 2 Hg or PhLi in tetrahydrofuran. Better results were obtained with PhLi. An intense black discoloration was observed at room temperature when the TiCl sub 4/PhLi ratio was 4/1. At -70C thermally unstable orange-red crystals were formed. The assumption that the latter were Ph sub 4 Ti (II) which could not be isolated was confirmed by reaction with HgCl sub 2 as shown in formula (3) of Enclosure. In the formation of II, a black substance was isolated which, after recrystallization in saturated hydrocarbons (n-nonane), formed a black crystalline compound which ignites spontaneously in air. The compound proved to be diphenyl titanium (III) formed by the decomposition of II as shown in formula (4) of Enclosure. Compound III is stable but extremely O sub 2-sensitive and decomposes slowly in a sealed ampoule at 200C into diphenyl and metallic titanium mirror. The composition of III was confirmed by chemical analysis and by its reactions. Whether the structure of III is monomeric or polymeric was not determined. Orig. art. has: 6 formulas.

ASSOCIATION: none
SUBMITTED: 16Feb63 DATE ACQ: 21Jun63 ENCL: 01
SUB CODE: 00 NO REF SOV: 001 OTHER: 005

Card 2/2

LATYAYEVA, V.N.; RAZUVAYEV, G.A.; KILYAKOVA, G.A.

Diphenyltitanium complexes with tetrahydrofuran and ammonia. Zhur. ob. khim. 35 no.8:1498-1499 Ag '65. (MIRA 18:8)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitet.

L 11410-67 EWT(m)/EWT(j) RM

ACC NR: AP7003667

SOURCE CODE: UR/0079/66/036/008/1491/1498

AUTHOR: Razuvayev, G. A.; Latyayeva, V. N.; Vyshinskaya, L. I.; Kilyakova, G. A. 37

ORG: Scientific Research Institute, Gor'kiy State University im. N. I. Lobachevskiy (Nauchno-issledovatel'skiy institut pri gor'kovskom gosudarstvennom universitete)

TITLE: Some reactions of Bis-cyclopentadienyltitanium and monocyclopentadienyl-phenyltitanium

SOURCE: Zhurnal obshchey khimii v. 36, no. 8, 1966, 1491-1498

TOPIC TAGS: organotitanium compound, thermal decomposition, chemical bonding

ABSTRACT: In a study of whether thermal reactions of decomposition of pi-cyclopentadienyl compounds of tetravalent titanium are common for different R, and a comparison of the reactions of newly obtained cyclopentadienyl derivatives with the known reactions of tetraphenyl- and diphenyltitanium, the thermal decomposition of $(C_5H_5)_2TiR_2$ was studied, where R = CH_3, C_6H_5, and $C_5H_5Ti(C_6H_5)_3$. Their reactions with halo-derivatives and oxidation were also studied, and the data obtained were compared with analogous data for tetraphenyltitanium. The new cyclopentadienyl compounds with tetravalent titanium $(C_5H_5)_2TiR_2$, when heated, exhibited a cleavage of the Ti-R bond, forming titanium compounds of lower valence, analogously to tetraphenyltitanium, which breaks down into diphenyltitanium and diphenyl. The pi-C_5H_5-Ti bond was unaffected. The stability of the compounds to thermal decomposition increased in the series: $(C_6H_5)_4Ti < (C_5H_5)Ti(C_6H_5)_3 < (C_5H_5)_2Ti(C_6H_5)_2$. $C_5H_5Ti(C_6H_5)_3$ was synthesized

Card 1/2

UDC: 547.1'3:546.821

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L 11411-66

L 11141-64

ACC NR: AP7003667

for the first time, and possessed one pi-bond C_5H_5-Ti and three sigma-bonds C_6H_5-Ti. The products of thermal decomposition: $(C_6H_5)_2Ti$, $C_5H_5TiC_6H_5$, and $(C_5H_5)_2Ti$ were more stable to the action of high temperatures, but were extremely readily oxidized. The reactions of $(C_6H_5)_2Ti$, $C_6H_5TiC_5H_5$, and $(C_5H_5)_2Ti$ with halo-derivatives included cleavage of the phenyltitanium bonds and their replacement by chlorine-titanium bonds. In the reaction of these compounds with chloroform, carbon tetrachloride, mercuric chloride, and hydrogen chloride, the C_5H_5Ti and $(C_5H_5)_2Ti$ groups were unaffected. The titanium-containing final products were $TiCl_4$, $C_5H_5TiCl_3$, and $(C_5H_5)_2TiCl_2$, respectively. The reactions of organotitanium compounds considered illustrate the relative stability of the pi-bond C_5H_5Ti to the action of temperatures, halo-derivatives and other reagents in comparison with the sigma-bond Ti-R. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 06Jul65 / ORIG REF: 007 / OTH REF: 003

Card 2/2 jb

9,6000 (1163 ONLY)
5.5800 (1043, 1273, 1282)

20700
S/120/61/000/001/038/062
E032/E114

AUTHORS: Bystrov, V.F., Dekabrun, L.L., Kil'yanov, Yu.N., Stepanyants, A.U., and Utyanskaya, E.Z.

TITLE: A High-Resolution Nuclear Magnetic Resonance Apparatus

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.1, pp.122-125

TEXT: The resolution of NMR spectrometers is determined by the following factors: (a) uniformity of the constant magnetic field over the volume of the specimen; (b) stability of the constant magnetic field in time; and (c) frequency stability of the radio-frequency magnetic field. In the NMR spectrometer described in the present paper a resolution of 10^{-7} was achieved, which means that all the above factors remain constant to within 1 in 10^7. The apparatus has been used to record spectra of substances containing hydrogen and fluorene luclei. Chemical shifts and the spin-spin interaction constant can be measured to an accuracy of better than 10%. The spectrometer incorporates a specially designed permanent magnet producing a field of 4530 oe. The magnet has the following features: (a) closed yoke, ensuring maximum rigidity; (b) fine and continuous adjustment of

A High-Resolution Nuclear Magnetic Resonance Apparatus

the parallelism of the working surfaces of the pole-pieces; (c) special coils are located on the poles and are used to modulate and adjust the field; (d) the gap length is 3.2 cm and the diameter of the working surface of the pole-pieces is 22 cm. In order to achieve a highly uniform magnetic field the pole pieces have a thickness of 6 cm and are specially annealed in a hydrogen atmosphere. The working surfaces are plane to within ± 0.5 μ. The relative nonuniformity of the magnetic field in the central region does not exceed 2×10^{-6} over a volume of 1 cm^3. Fig.2 shows the magnetic field chart in the central part of the gap. The probe is illustrated in Fig.3. The substance under investigation is placed in the thin-walled glass ampoule 3 which is rotated at a rate of 10 000 rpm by a small air turbine. The ampoule is held in position by the perspex rotor 2 of the turbine. The lower end of the ampoule is centred by a teflon bush 6 and rests on the perspex plate 7. The body of the probe 5 is made from red copper. The coil is wound on the perspex former 4. The oscillator is quartz stabilized and works on the 3rd

S/120/61/000/001/038/062
E032/E114

A High-Resolution Nuclear Magnetic Resonance Apparatus

harmonic of the mechanical oscillations of the quartz resonator. Detailed circuits of the quartz oscillator and various amplifiers etc. are given. Fig.5 shows a typical spectrum obtained for ethyl alcohol. The volume of the specimen was 4 mm^3 and the time taken to record the spectrum was 50 sec. In general, the volume of the specimen lies between 4 and 15 mm^3. Acknowledgements are expressed to K.V. Vladimirskiy for valuable advice.
There are 5 figures and 8 references: 1 Soviet and 7 non-Soviet.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR
(Institute of Chemical Physics, AS USSR)

SUBMITTED: February 2, 1960

Card 3/5

L 6912-65
ACCESSION NR: AP4033112 S/0120/64/000/002/0072/0075

AUTHOR: Dekabrun, L. L.; Kilyanov, Yu. N.

34

TITLE: Generating long-duration linear sweeps

SOURCE: Pribory* i tekhnika eksperimenta, no. 2, 1964, 72-75

TOPIC TAGS: sweep, linear sweep, precision linear sweep, long duration linear sweep, nuclear magnetic resonance spectrometer, spectrometer linear sweep

ABSTRACT: A theoretical investigation and an experimental development of an integrating-circuit-type generator of linearly-time-varying, high-precision, long-duration voltages are reported. The generator is intended for sweeping various spectra. Assuming that a linear voltage produced by electronic means can be represented by the initial part of an exponential curve, the integrating capacitor leakage, the grid current of the amplifier's first tube, and the amplifier drift are theoretically considered; these three factors essentially limit the potentialities of the integrating amplifier. A practical circuit of a generator intended for nuclear-magnetic-resonance sweep is briefly described. Sweeps of up to 40 min duration at 0.1% nonlinearity are possible. The generator develops cross-cut-saw-

Card 1/2

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000722520019-3"

L 5942-65

ACCESSION NR: AP4035112

tooth voltages with a period of 10 to 0.01 sec (continuous range) and rip-saw-tooth voltages with a period of 4 to 2/400 sec. Orig. art. has: 4 figures.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

SUBMITTED: 13Apr63 ENCL: 00

SUB CODE: EC, GP NO REF SOV: 002 OTHER: 000

Card 2/2

L 2000-66 EWT(1)/EPF(c) IJP(c) WW/GG

ACCESSION NR: AP5018626 UR/0022/65/018/003/0134/0142

AUTHOR: Dekabrun, L. L.; Kil'yanov, Yu. N.; Mkrtchyan, A. R. 44,55 44,55 44,55 52 49 B

TITLE: Autodyne nuclear magnetic resonance pickups 21,44,55

SOURCE: AN ArmSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, v. 18, no. 3, 1965, 134-142

TOPIC TAGS: nuclear magnetic resonance, nmr spectroscopy, negative feedback, signal processing, stabilizer

ABSTRACT: The authors present analysis of the stabilizing action of active negative feedback on autodyne pickups for the investigation of solids by the NMR method. In such applications, autodyne pickups have certain advantages over others, but must be stabilized when the signal voltage is low, such as is the case with solid-state NMR. The transients in an autodyne pickup with stabilized amplitude are calculated, and the modifications that must be introduced in the pickup circuit to ensure stability are described. Empirical means of selecting the autodyne circuit and its parts to obtain maximum sensitivity are suggested, since a theoret-

Card 1/3

L 2000-66

ACCESSION NR: AP5018626

3

ical analysis of this problem is impossible. A schematic diagram of a pickup with stable operation at less than 0.005 volt on the resonant circuit is presented. The diagram is shown in Fig. 1 of the Enclosure. This circuit has been thoroughly tested and proved itself in practical investigations of several natural compounds by the NMR method. Orig. art. has: 6 figures and 21 formulas.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

44,55

SUBMITTED: 04Nov64 ENCL: 01 SUB CODE:

NR REF SOV: 005 OTHER: 012

Card 2/3

L 2000-66
ACCESSION NR: AP5018626

ENCLOSURE: 01

0

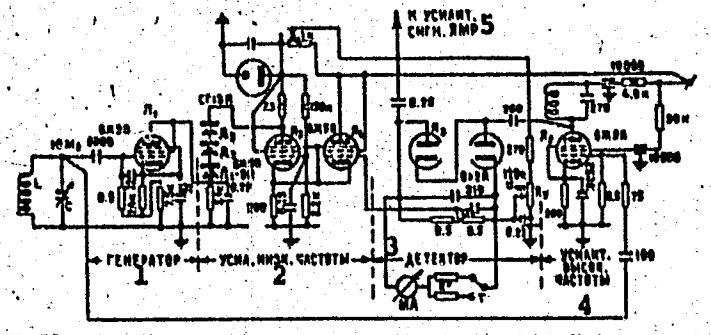


Fig. 1. Complete schematic diagram of autodyne pickup, intended for the investigation of crystals.

1 - Generator, 2 - low-frequency amplifier, 3 - detector, 4 - high-frequency amplifier, 5 - to NMR signal amplifier.

Card 3/3 DP

GAVRILOV, Igor' Vladimirovich[Havrylov, I.]; KILYEROG, N.M. [Kilieroh, N.M.], red.; DAKHNO, Yu.M., tekhn. red.

[Moon is in the objective] V ob'iektyvi - misiats'. Kyiv, Vyd-vo Akad. nauk URSR, 1962; 39 p. (MIRA 15:7)
(Moon--Surface)

KILYUKIN, P.I.

The oldest school for locomotive engineers. Elek.i tepl.tiaga 5 no.9:27-29 S '61. (MIRA 14:10)

1. Nachal'nik Voronezhskoy tekhnicheskoy shkoly mashinistov lokomotivov.
(Voronezh--Locomotive engineers--Education and training)

USSR/Geophysics - Electrical conductivity FD-1706

KILYUKOVA, G.G.

Card 1/1 : Pub. 45-6/12

Author : Ovchinnikov, I. K., and Kilyukova, G. G.

Title : Effective electrical conductivity of medium with inclusions

Periodical : Izv. AN SSSR, Ser. geofiz., No. 1, 57-59, Jan-Feb 1955

Abstract : The authors describe an experimental verification of the theoretical formulas for the electrical conductivity of a medium with inclusions in the form of ellipsoids. The results of the experiments agree with the theoretical computations. Three references; e.g. I. K. Ovchinnikov, "Theory of the effective electrical conductivity, magnetic permeability, dielectric constant of a medium possessing foreign inclusions," Trudy Vsesoyuzn. in-ta razvedochnoy geofiziki, No 3, 1950.

Institution : Sverdlovsk Mining Institute im. V. V. Vakhrushev

Submitted : June 27, 1953

L 8511-66

ACC NR: AT5027525 SOURCE CODE: UR/2690/65/008/000/0143/0165

40
Br 1

AUTHOR: Baum, A.K.; Kilyup, A.P.

ORG: Institute of Electronics and Computer Technology AN LatSSR, Riga (Institut elektroniki i vychislitel'noy tekhniki AN LatSSR)

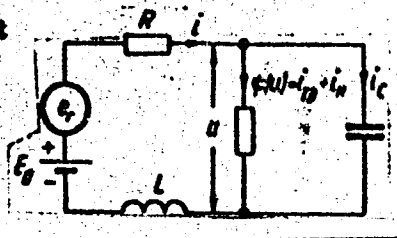
TITLE: Transient processes in pulsed tunnel-diode circuits

SOURCE: AN LatSSR. Institut elektroniki i vychislitel'noy tekhniki. Trudy, v. 8, 1965. Avtomatika i vychislitel'naya tekhnika, 143-165

TOPIC TAGS: tunnel diode, semiconductor device, semiconductor theory, circuit design

ABSTRACT: Transient processes in tunnel-diode devices limit the maximum speed of pulsed circuits. The duration and form of such transients depend strongly on the particular circuit design. However, analysis shows that the majority of circuits may be reduced to the equivalent circuit shown in Fig. 1. The article discusses certain methods for approximating

Fig. 1 Equivalent circuit for the analysis and calculation of transient processes.



Card 1/2

UDC: 621.382.233:681.142.67

L 8511-66
ACC NR: AT5027525

the tunnel diode characteristics, the effect of such factors as the rise time, inductances, variable capacitances on the tunnel diode transients. An example is given of the calculations in the design of a threshold logic computer circuit. Results of the theoretical discussion show that 1) the tunnel diode characteristic can be approximated by piecewise-linear curves; 2) the finite rise time of pulses should be taken into account in the calculations; 3) variable diode capacitances can be substituted by appropriately averaged capacitances; and 4) the inductivity of tunnel-diode circuits may be neglected if $L/R \ll 2C\rho$ (ρ is the modulus of the mean negative resistance). Orig. art. has: 29 formulas and 19 figures.

SUB CODE: EC / SUBM DATE: none / ORIG REF: 004 / OTH REF: 009

Card 2/2

L 8525-66

ACC NR: AT5027527 SOURCE CODE: UR/2690/65/008/000/0185/0194

37
B+1

AUTHOR: Karklin'sh, V.G.; Kilyup, A.P.

ORG: Institute of Electronics and Computer Technology AN LatSSR, Riga (Institut elektroniki i vychislitel'noy tekhniki AN LatSSR)

TITLE: The influence of tunnel diode parameters on twin circuit operation

SOURCE: AN LatSSR. Institut elektroniki i vychislitel'noy tekhniki. Trudy, v. 8, 1965. Avtomatiki i vychislitel'naya tekhnika, 185-194

TOPIC TAGS: tunnel diode, semiconductor device, circuit theory

ABSTRACT: The paper studies the twin circuit (Goto pair) operation of matched pairs of tunnel diodes. Following a general theoretical introduction, the authors discuss the results of calculation of switching processes in twin circuits carried out on a digital computer. The calculations cover the effect of tunnel diode parameters on the switching process. The results are illustrated by oscillograms showing the operation of the twin circuits. A comprehensive discussion of the results concludes the paper. Orig. art. has: 13 formulas and 7 figures.

SUB CODE: EC / SUBM DATE: none / OTH REF: 003

Card 1/1 (DW) UDC: 681.142.32.001.2

L 8526-66

ACC NR: AT5027528 SOURCE CODE: UR/2690/65/008/000/0195/0207

AUTHOR: Zaznova, N.Ye.; Kilyup, A.P.; Red'ko, V.A.

48
B+1

ORG: Institute of Electronics and Computer Technology AN LatSSR, Riga (Institut elektroniki i vychislitel'noy tekhniki)

TITLE: Digital computer analysis of transient processes in tunnel parametrons

SOURCE: AN LatSSR. Institut elektroniki i vychislitel'noy tekhniki, Trudy, v. 8, 1965. Avtomatika i vychislitel'naya tekhnika, 195-207

TOPIC TAGS: digital computer, computer application, computer component, semiconductor device

ABSTRACT: This article analyzes the transient processes in tunnel-diode parametrons. The authors describe the methods and give the results of digital computer calculations of a tunnel parametron. The theoretical conclusions were tested experimentally. Results show that 1) the most important characteristic determining the operation of the tunnel parametron is f tg φ (tg φ is the average differential conductivity of the negative slope segment; $f = \sqrt{L_{osc}/C_{osc}}$); for small values of this quantity the oscillations are close to simple harmonic ones, while for larger values, the oscillations exhibit a relaxation character; 2) high f tg φ circuits are fast and quite insensitive to the interaction frequency or self-losses; 3) the rise time may be shortened if the excitation radio pulse phase is adjustable in such a way that the diodes may enter during the first half period the negative slope region; 4) the

Card 1/2

UDC: 621.382.233.621.372.45

L 8526-66
ACC NR: AT5027528

damping time is shortened if the excitation is turned on when the energy stored in the circuit is a minimum; 5) with the increase in bias, the oscillation rise time increases and the damping time decreases; 6) the rise time is at a minimum for a certain optimum excitation voltage; 7) when approaching the critical values of the parameters (beyond which the oscillations cannot be excited) the rise time increases rapidly; and 8) the analytic solution presented in earlier papers gives a faithful qualitative pattern of parametron operation but cannot be utilized for the estimate of operation near the critical point. Orig. art. has: 33 formulas and 9 figures.

SUB CODE: EC,DP / SUBM DATE: none / ORIG REF: 005

Card 2/2

SNYAKIN, P. G., KILYUTSKAYA, O. D.

Skin

Functional mobility in the cutaneous receptor. Fiziol. zhur. 38 no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952, UNCLASSIFIED.

FEDOROV, A.F.; KILZHENKO, V.P.

Radioactivity of some bottom organisms in the Norwegian Sea. Okeanologiia 3 no.1:123-126 '63. (MIRA 17:2)

1. Polyarnyy nauchno-issledovatel'skiy i proyektnyy institut morskogo rybnogo khozyaystva i okeanologii imeni N.N.Knipovicha.

KIM, A.

Case of recurrent measles. Med. zhur. Uzb. no. 2:67-68 F '61.
(MIRA 14:2)

1. Iz detskoy poliklinik No.8 goroda Tashkenta (glavnyy vrach - V.D. Bagdasarov).
(MEASLES)

RIPYAKH , L.A., kand.med.nauk, KIM, A.

Mass poisoning with solanine. Sov.med. 22 no.10:129-131 O '58 (MIRA 11:11)

(SOLANINE, pois.
mass outbreak in Korea (Rus))

KIM, A.

Late manifestations of primary symptoms of measles. Med. zhur. Uzb. no.5:75-76 My '61. (MIRA 14:6)

1. Iz detskoy poliklinik No.8 Frunzenskogo rayona goroda Tashkenta (glavnyy vrach - V.D.Bagdasarov).
(MEASLES)

KIM, A.

Erection of trestles using intermediate supports. Na stroi. Ros. 3 no.12:15 D '62. (MIRA 16:2)

1. Rukovoditel' proyektnoy gruppy tresta Kuzbassshakhtomontazh. (Trestles)

KIM, A.G.

Use of polycardiography in sports medicine. Vest. AN Kazakh. SSR 20 no.9:77-81 S '64. (MIRA 17:10)

L 52281-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ACCESSION NR: AT5012601 UR/2513/65/015/000/0200/0207

AUTHOR: Lysenko, V. I.; Kim, A. G.

TITLE: Determination of microimpurities in metallic gallium of high purity

SOURCE: AN SSSR. Komissiya po analiticheskoy khimii. Trudy, v. 15, 1965. Metody kontsentrirovaniya veshchestv v analiticheskoy khimii (Methods of concentrating substances in analytical chemistry), 200-207

TOPIC TAGS: gallium analysis, gallium concentration, spectroscopic analysis, colorimetric analysis, polarography

ABSTRACT: After extracting gallium (6 g) with butyl acetate from 5-6 M HCl and attaining a concentration factor of 400, the authors determined the microimpurities present in the sample by spectrochemical, polarographic and colorimetric analysis. The following metals were determined: Ag, Fe, Cu, Pb, Cd, In, Zn, Ni, Co, Bi, Mn, Cr, Al, Ti, Ca, and Mg. In the first type of analysis, an ISP-22 spectrograph was used, and all 16 metals were determined on a single spectrogram. In the polarographic analysis of Cu, Pb, Cd, In, Zn, and Bi, the supporting electrolyte used was 0.1 M HCl + 1 M KBr or 0.1 M CH_3COONa + 0.1 M CH_3COOH, and alternating current polarograms were recorded. In the colorimetric determination, copper was determined by

Card 1/2

L 52204-65

ACCESSION NR: AT5012881

the reaction with dithizone, nickel, with α-furyldioxime, cobalt, with nitroso-R-salt; silver and platinum, by colorimetric titration with thiourea; and manganese, by the reaction with ammonium persulfate in the presence of silver. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: Komissiya po analiticheskoy khimii, AN SSSR (Commission on Analytical Chemistry, AN SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: IC, MM

NO REF SOV: 008 OTHER: 005

Card 2/2

KIM, A.I.

Stratigraphy of Ordovician and Lower Llandoverian sediments in the Zeravshan mountain region. Uzb. geol. zhur. 7 no.6: 72-75 '63. (MIRA 17:8)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete Ministrov UzSSR.

Kim, A. I.

99-58-2-5/9

AUTHORS: Chernikov, V.G., Candidate of Technical Sciences, Kim, A.I., Engineer

TITLE: PR-5 — A Device for Surface Levelling of Irrigated Land (PR-5 - orudiye dlya poverkhnostnogo vyravnivaniya oroshayemykh ploshchadey)

PERIODICAL: Gidrotekhnika i Melioratsiya, 1958, # 2, pp 37-43 (USSR)

ABSTRACT: All irrigated fields, even after having been levelled previously, have to be floated again before seeding. At least 8 working days are needed to level 1 ha of land by the conventional method. Many types of mechanical devices are actually in use to increase the efficiency of land floating. The authors describe some of these floats and especially the type "PR-5", which is used in cotton growing areas. It can level 2.13 ha in 1 hour. Special tests have proved the superiority of this type.

There are 3 tables, 1 figure, 1 photo and 8 graphs.

AVAILABLE: Library of Congress

Card 1/1

KIM, A.I.

Lower LLandovery sediments of the Zeravshan-Gissar mountain region. Dokl.AN Tadzh.SSR 2 no.2:27-28 '59.
(MIRA 13:4)

1. Trest Uzgeolrazvedka. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR R.B.Baratovym.
(Tajikistan--Geology, Stratigraphic)

KIM, A. I.

Technical and economic indices of air drilling. Razved. i okh. nedr 28 no.6:51-52 Je '62. (MIRA 15:10)

1. Uzbekskiy gidrogeologicheskiy trest.

(Core drilling)

KIM, A.I.

Economic efficiency of using the vertical electric prospecting method in hydrogeological studies. Razved. i okh. nedr 29 no.7:58-59 Jl '63. (MIRA 16:9)

1. Uzbekskiy gidrogeologicheskiy trest.
(Uzbekistan--Water, Underground) (Electric prospecting)

1. KIM, A. KH., KROKHINA, A. S.; Engs.
2. USSR (600)
4. Looms
7. Zh-13 jacquard apparatus. Tekst. prom. 12 no. 12 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

KIM, A.Kh., inzhener.

Bucket arrangement of the TEMP-2 excavator. Torf.prom. 30 no.10:15-17 O '53. (MLRA 6:10)
(Excavating machinery)

KIM, A.KH.

1482 Dvizheniye torfyanoy massy v mundshtukakh. Minsk, 1954. 10 s. s chert. 21 sm (M. Vo vyssh. obrazovaniya SSSR. Belorus. politikhn in-t im. I. V. Stalina). 100 e'ks B. ts.- (54-54195

SO: Knizhaya Letopis', Vol. 1, 1955

LIM, A. Kh.

"The Movement of a Peaty Mass in Nozzles." Cand Tech Sci, Belorussian Polytechnic Inst imeni I. V. Stalin, 7 Jan 55. (SB, 28 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556 24 Jun 55

KIM, A.Kh.

Axial flow of peat in cylindrical packing beds. Sbor.nauch. trud.Bel.politekh.inst. no.65:97-112 '59.
(MIRA 13:5)

(Peat) (Fluid dynamics)

Kim, A. Kh.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

134. A. A. Ilyushin (Moscow): Problems of the theory of plasticity under combined loading.

135. V. K. Kabulov (Tashkent): Elastic-plastic vibrations of rods of non-circular cross section.

136. V. G. Kalinin (Leningrad): The forced non-linear flexural vibrations of a homogeneous prismatic rod and a very long rectangular plate.

137. S. Kaliski (Warsaw): On a method of solving the equations of motion for an infinite anisotropic medium in the presence of a magnetic field.

138. S. N. Kan, V. A. Shimlni (Kharkov): An engineering method for the design of open prismatic shells.

139. I. I. Kandaurov (Leningrad): The distribution of vertical compressive stresses and strains in foundations in homogeneous or stratified soils.

140. B. Ia. Kantor (Kharkov): Bending of cantilever plates of variable stiffness.

141. K. S. Karapetian (Erevan): The effect of aging and anisotropy on the creep of concrete.

142. L. M. Kachanov (Leningrad): On the time of rupture in creep.

143. L. M. Kachanov (Leningrad): On some variational principles and methods in the theory of plasticity.

144. K. A. Kerimov (Baku): A procedure of determining an impact tension diagram for large deformations.

145. N. A. Kilchevskii (Kiev): Some generalizations of the formulation of elastostatic and elasto-dynamic contact problems and methods for their solution.

146. A. Kh. Kim (Omsk): The flow of a visco-plastic medium in a tube.

147. L. A. Kitover (Leningrad): On the elastic equilibrium of thin, infinite orthotropic plates.

148. K. V. Kovalev (Kharkov): Models of the influence surfaces for the intensity of the bending moment in thin plates and shells.

149. A. D. Kovalenko (Kiev): [illegible] shells of revolution of variable thickness in a three-dimensional temperature field.

150. N. Konarov (Sofia): Dynamic stability of cylindrical and spherical shells.

151. M. Konarov (Sofia): The influence of initial imperfections of shape on the stability of thin elastic cylindrical sandwich shells under axial compression.

152. W. T. Koiter (Delft): Elastic stability and post-buckling behavior.

153. A. S. Kondratev (Kuibyshev), Yu. P. Burkov (Orenburg): The effect of support elasticity on the natural vibrations of rods.

154. I. M. Kopev, I. A. Oding (Moscow): Strength and plasticity of "whiskers".

155. B. G. Korenev (Moscow): The design of flexible plates and beams on elastic foundation.

156. M. S. Kornishin (Kazan): Bending of rectangular shallow shells with elastic ribs.

157. M. S. Kornishin (Kazan): On the solution of the nonlinear algebraic equations of shell theory.

158. V. G. Korotkin, D. M. Tartakovskii (Leningrad): The one-dimensional problem of the consolidation of a sediment layer with variable specific weight and variable water permeability.

159. A. S. Kosmodamianskii (Saratov): The elastic equilibrium of anisotropic plate with a finite number of elliptical holes.

160. Yu. I. Kosterin (Iaroslavl), I. V. Kragelskii (Moscow): Rheological phenomena in dry friction.

161. Yu. V. Krotov (Stalinsk): Lateral stability of coupled arches with double curvature.

162. A. I. Kuznetsov (Leningrad): On the theory of plane plastic stress.

163. V. N. Kukudzhanov, L. V. Nikitin (Moscow): Propagation of elastic, visco-plastic waves in bars.

164. T. D. Kupradze (Tbilisi): The investigation of contact problems in the theory of elasticity by the method of singular integral equations.

165. N. V. Lasovskaia (Moscow): The investigation of the deformations of grains on models by the X-ray method.

166. A. Langenbach (Berlin): Application of the non-linear variational principle to some problems of the theory of elastic-plastic strains.

167. S. M. Levi (Moscow): The investigation of rheological properties of gelatin solutions.

KIM, A.Kh.; BLYUM, A.G., red.; KONCHITS, Ye.P., tekhred.

[Some problems of the rheology of viscoplastic dispersed systems] Nekotorye voprosy reologii viazko-plastichnykh dispersnykh sistem. Minsk, Redaktsionno-izdatel'skii otdel BPI im. I.V.Stalina, 1960. 81 p. (MIRA 13:7)

(Rheology)

KIM, A.M., inzh.; GUSEV, V.Ya., inzh.

Replacement of open-hearth ore by briquetted scale. Stal' 20 no.2:123-124 F '60. (MIRA 13:5)
(Open-hearth process)

KIM, A.Kh., VOLAROVICH, M.P.

Two-dimensional problem of the motion of a viscoplastic disperse system between two planes forming an acute angle. Koll. zhur. 22 no.2:186-194 Mr-Ap '60. (MIRA 13:8)

1. Kalininskiy forfyanoy institut i Belorusskiy politekhnicheskiy institut.
(Vicosity) (Colloids)

KIM, A.Kh.

New equipment for weaving. Tekst. prom. 23 no.7:5-10 Jl '63.
(MIRA 16:8)

1. Glavnyy spetsialist Gosudarstvennogo komiteta mashinostroyeniya pri Gosplane SSSR.
(Looms)

KYM A-L

COUNTRY : USSR
CATEGORY : Farm Animals. Horses. Q-2

ABS. JOUR. : RZBiol., No. 4, 1959, No. 16632

AUTHOR : Kim, A. I.
INST. : Moscow Veterinary Academy.
TITLE : The Ducts of the Lymphatic Flow from the Superficial Structures of the Neck's Ventral Region and the Topography of the Carotid Lymphatic Duct*

ORIG. PUB. : Sb. Mosk. vet. akad., 1957, 19, vyp. 7, str. 1, 121-129

ABSTRACT : With the method of injecting vessels, preserving specimens, as well as with the methods of roentgen and dioptric photography it was shown that the deep lymphatic vessels (LV) of the ventral region of the neck (VRN) usually proceed together with blood carrying vessels and only rarely independently. Muscles which are joined together have the same LV as the main trunk. These latter form vascular bundles in the VRN (2-7 vessels in one

CARD: 1/2

*In the Horse.

COUNTRY : USSR
CATEGORY : Farm Animals. Horses. Q-2

ABS. JOUR. : RZBiol., No. 4, 1959, No. 16632

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000722520019-3"

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : bundle); the number of bundles corresponds to the number of arterial branches which nourish the given muscles. The regional lymphatic nodes (LN) for the LV of VRN are the superficial cervical LN, median and cranial carotid, as well as the sub-clavicular LN's. The topography of the median carotid LN is not stable as compared to other LN of the VRN. The general carotid lymphatic duct is very variable and most frequently doubled.

CARD: 2/2

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77607
SOV/133-60-2-7/25

AUTHOR: Kim, A. M., Gusev, V. Ya. (Engineer)

TITLE: Substitution of Briquettes From Scale for Open-Hearth Iron Ore

PERIODICAL: Stal', 1960, Nr 2, pp 123-124 (USSR)

ABSTRACT: In a metallurgical plant (unnamed) open-hearth iron ore used in the finishing period was substituted by briquettes. Briquettes were made from scale with addition of water glass for bonding (5% of all mixture). The size of the briquettes was 300 x 1,500 x 70 mm; specific gravity was 4.82 g/cm^3. In manufacture and transportation briquettes give 5-7% fines. The composition of briquettes (in %) is:

Fe	Fe_2O_3	FeO	Mn_3O_4	SiO_2	Al_2O_3	P_2O_5	P.P.
69.8	33.9	59.9	0.68	4.17	0.55	0.17	0.63

Card 1/5

Substitution of Briquettes From Scale for Open-Hearth Iron Ore

77607
SOV/133-60-2-7/25

Briquettes are used in a 90-ton furnace in smelting killed and rimmed regular steels and also low-alloy steel, 25GS (composition not given). Consumption of briquettes (kg/ton of metal), 12.5, is lower than that of ore, i.e., 13.3. Application of scale briquettes during the finishing period, with addition of lime and discharge of slag, provides effective phosphorus and sulfur removal from the bath and increases basicity of the slag, as shown in Figs. 2 and 3.

Card 2/5

Substitution of Briquettes From Scale for Open-Hearth Iron Ore

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SOV/133-60-2-7/25

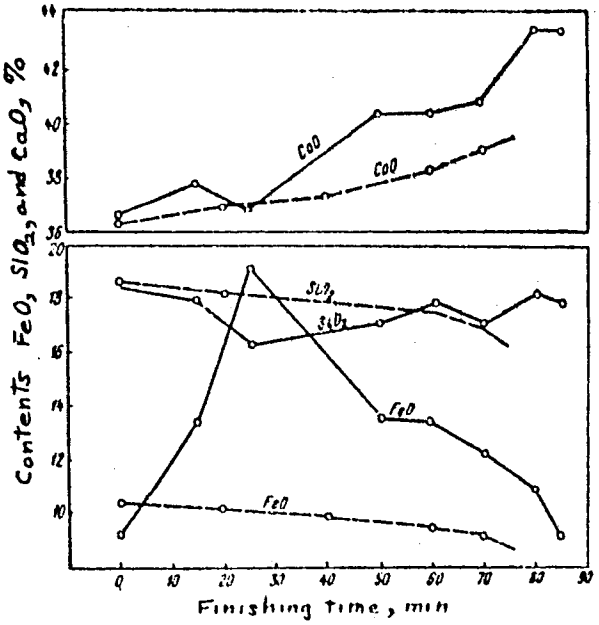


Fig. 2. Change in slag composition during finishing period by melting with scale briquettes. (a) Solid line, scale briquettes; (b) dotted line, ore.

Card 3/5

Substitution of Briquettes From Scale for Open-Hearth Iron Ore

77607
SOV/133-60-2-7/25

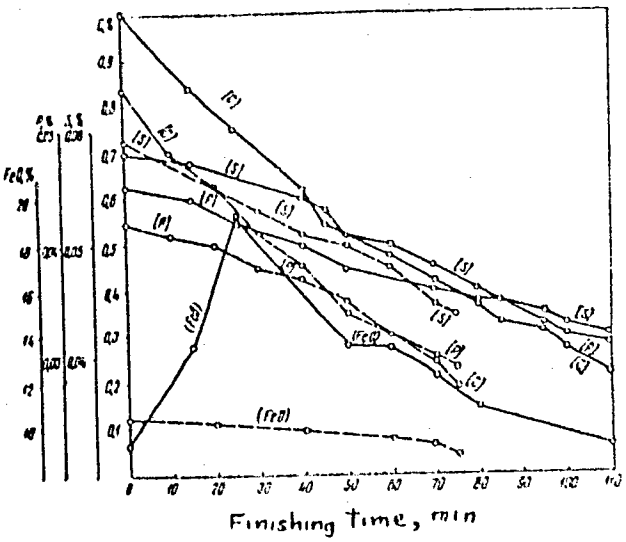


Fig. 3. The relation between burning out of carbon, sulfur, and phosphorus during the finishing period and the content of ferrous oxide in the slag. (a) Solid line, smelting with scale briquettes; (b)...dotted line, smelting with ore.

Card 4/5

Substitution of Briquettes From Scale for Open-Hearth Iron Ore

77607
SOV/133-60-2-7/25

As a result of industrial experiments, the following was achieved: (1) improved conditions of desulfurization and dephosphorization of metal and decreased consumption of bauxite; (2) decreased charging time of oxidizing agent into the furnace. To accelerate sinking of the briquettes, which decreases their dissolving in the slag and speeds up burning out of carbon, it is suggested that the shape of briquettes be changed from rectangular to spherical or cubical. There are 3 figures; and 2 Soviet references.

Card 5/5

KIM, A.N., inzh.

Earthwork in sand and rocky soil. Stroi. truboprov. 7 no.7:20-21 Jl '62. (MIRA 15:7)

1. Stroitel'noye upravleniye No.4 tresta Soyuzprovodmekhanizatsiya, plato Ustyurt.

(Earthwork)
(Gas, Natural--Pipelines)

BARONSKIY, Isaak Vladimirovich, inzh.; VIKTOROV, Georgiy Borisovich; VOROB'YEV, Vladimir Il'ich; KIM, Anatoliy Senyurovich; LEONT'YEV, Sergey Nikolayevich, kand. tekhn. nauk; MUZYKANTOV, Stepan Pankrat'yevich; PROSTENTSOV, Grigoriy Yevgen'yevich; TSAY, Trofim Nikolayevich

[Building of mining enterprises] Stroitel'stvo gornykh predpriiatii. Moskva, Nedra, 1965. 323 p. (MIRA 18:10)

KIM, A.T.; POTASHKIN, K.G.

Work practices of Mine No.35 in the struggle for the title of enterprise of communist labor. Ugol' 36 no.7:3-4 Jl '61. (MIRA 15:2)

1. Glavnyy marksheyder shakhty No.35 kombinata Karagandaugol' (for Kim). 2. Nachal'nik ventilyatsii shakhty No.35 kombinata Karagandaugol' (for Potashkin).

(Karaganda Basin--Coal mines and mining--Labor productivity)

MOZGOVAYA, A.M.; KIM, A.V.

Amobiasis in Karaganda; an abstract. Med. paraz. i parazit. bol. 34 no.2:234 Mr-Ap '65. (MIRA 18:11)

Fil', A.V., Cand Biol Sci -- (dis) "Melt-[illegible] of the [illegible] Amu-Dar'i delta." Tashkent, 1957, 16 pp (Min of Higher Education USSR, Middle Asian State Univ im V.I. Lenin) 150 copies (KL, 43-57, 111)

RUDENKO, L.N., mashinist-instruktor; KIM, D., mashinist teplovoza

We have introduced an important and use measure. Elek. i tepl. tiaga 5 no.5:19-20 My '61. (MIRA 14:7)

1. Depo Rtishchevo, Privolzhskoy dorogi.
(Railroads—Repair shops)

KIM, B.M.

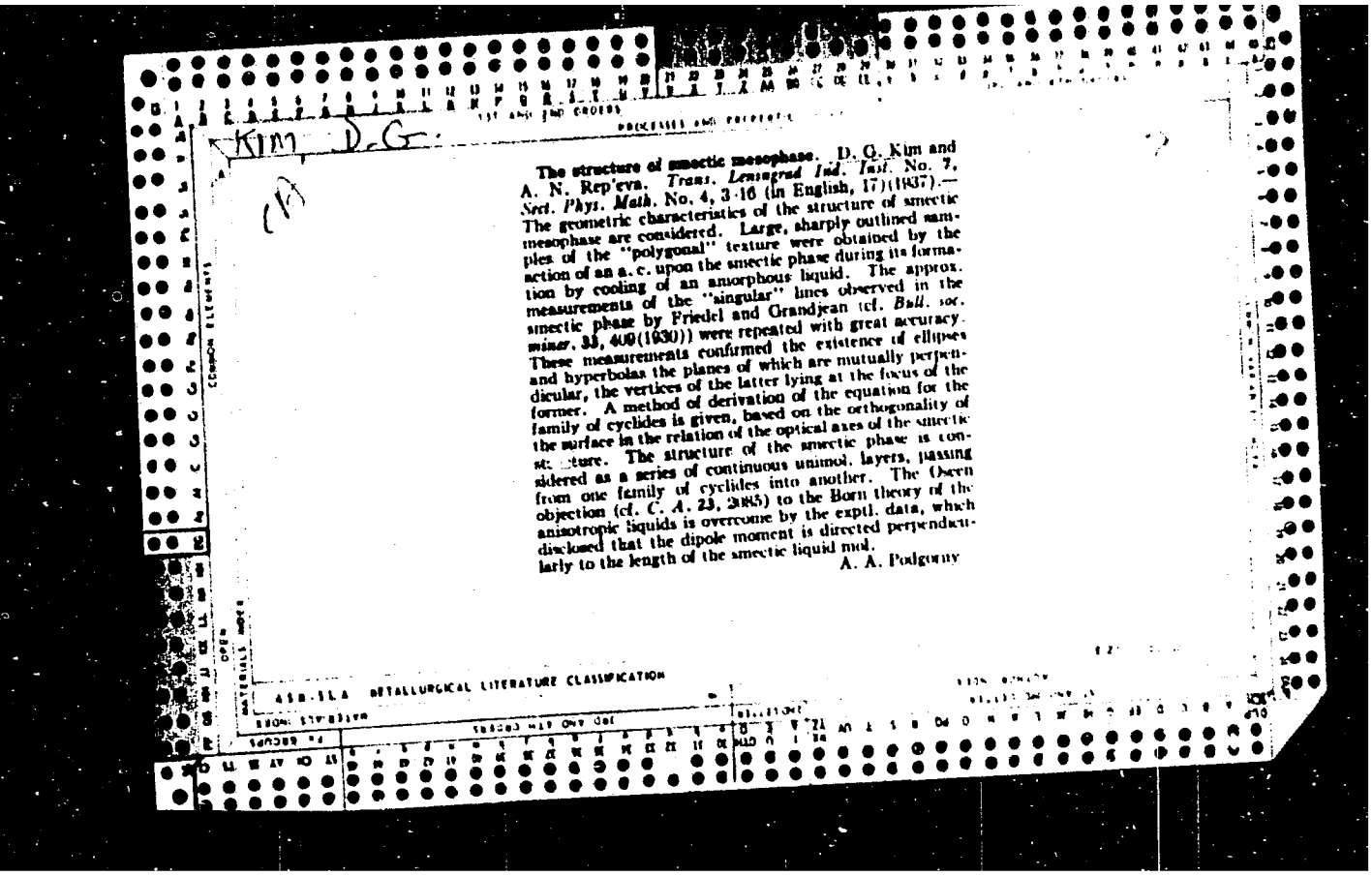
Fertilizers for winter wheat. Zemledelie 27 no.7:89-90 Jl '65.
(MIRA 18:7)

1. Nikolayevskaya oblastnaya sel'skokhozyaystvennaya opytnaya stantsiya.

KIM, B.P., inzh.

Putting up 110 kv electric transmission lines on centrifuged reinforced concrete poles. Energ. stroi. no.3:88-91 (1>), 1960. (MIRA 14:9)

1. Trest "Yuzhelektroset'stroy".
(Electric lines--Poles)
(Precast concrete construction)



KIM D.G.

The structure of smectic mesophase. D. G. Kim and A. N. Rep'eva. *Trans. Leningrad Ind. Inst.* No. 7, *Sect. Phys. Math.* No. 4, 3-16 (in English, 17)(1937).—The geometric characteristics of the structure of smectic mesophase are considered. Large, sharply outlined samples of the "polygonal" texture were obtained by the action of an a. c. upon the smectic phase during its formation by cooling of an amorphous liquid. The approx. measurements of the "singular" lines observed in the smectic phase by Friedel and Grandjean (cf. *Bull. soc. miner.* **33**, 409(1910)) were repeated with great accuracy. These measurements confirmed the existence of ellipses and hyperbolas the planes of which are mutually perpendicular, the vertices of the latter lying at the focus of the former. A method of derivation of the equation for the family of cyclides is given, based on the orthogonality of the surface in the relation of the optical axes of the smectic structure. The structure of the smectic phase is considered as a series of continuous unimol. layers, passing from one family of cyclides into another. The Oseen objection (cf. *C. A.* **23**, 3985) to the Born theory of the anisotropic liquids is overcome by the expti. data, which disclosed that the dipole moment is directed perpendicularly to the length of the smectic liquid mol.

A. A. Polgunov

AUTHORS: Kim, D.G. and Sorokin, B.I., Engineers SOV/118-58-2-10/19

TITLE: The Boring of Drainage Holes with the Drilling Rig DS-3 (Bureniye drenazhnykh skvazhin stankom DS-3)

PERIODICAL: Mekhanizatsiya trudoyëmkikh i tyazhëlykh rabot, 1958, Nr 2, pp 28-29 (USSR)

ABSTRACT: Giprouglemash designed the drilling rig DS-3 for drilling the rising drainage bore-holes in the waterlogged coal deposits of the Moscow region. It was tested at the mine Nr 36 of the Stalinogorskugol' trust of the Moskvougol' Combine. Installed on a special trolley, it can move along the mining galleries and drill bore holes up to 40 m deep and 75-108 mm in diameter. It is powered by two electric motors: the rotating machanism - by the motor K11-4 of 4 kw, and the drilling mechanism - by the motor TAG-31/6 of 2 kw. The rotary pump is of the L1F5 type, its capacity - 5 liters/min. Various types of drilling bits are used for hard (limestone) and tough (wet clay) rocks typical of the Moscow region. Its drilling capacity: in coal layers - up to 6 m/hr; in clay - 7 to 8 m/hr and in limestone - 1 m/hr. Fifteen bore holes

Card 1/2

The Boring of Drainage Holes with the Drilling Rig DS-3 SOV/118-58-2-10/19

of a total length of 300 m were drilled during the tests, which showed that the drilling rig DS-3 could be adapted for the drilling of rising bore-holes.
There is 1 photo and 1 diagram.

1. Mining engineering 2. Water--Control 3. Drilling machines --Performance

Card 2/2

KIM, D.L., inzh.

Efficient work methods of the crew led by the excavator operator.
Transp. stroi. 8 no.2:10-12 F '58. (MIRA 11:2)
(Excavating machinery)

PEVZNER, M.Ye.; KIRIYENKO, V.F.; KIM, D.N.

Effect of boring and blasting operations on the stability of the edges of strip mines. Gor. zhur. no. 12:12-16 D '61. (MIRA 15:2)

1. Noril'skiy gorno-metallurgicheskiy kombinat (for Pevzner, Kiriyenko). 2. Ural'skiy filial Vsesoyuznogo nauchno-issledovatel'skogo marksheyderskogo instituta, Sverdlovsk (for Kim).

(Boring)
(Blasting)
(Strip mining)

LISITSYN, G.T.; KIM, D.

Boring and blasting operations in the chamber and pillar mining system in pits of the Dzhezkazgan Mine. Vzryv. delo no.55/12:245-253 '64. (MIRA 17:10)

KIM, D.N.

Study of the structural weakness of fractured rocks by modeling their strength under laboratory conditions. Trudy Inst. gor. dela UFAN SSSR no.5:97-105 '63. (MIRA 16:9)
(Rocks--Testing) (Geological modeling)

KIM, O.N., inzh.

Effect of permafrost on the stability of slopes and benches of Norilsk strip mines. [Trudy]VNIMI no.50:250-257 '63.
(MIRA 17:10)

KIM, D.V., aspirant

Quality of telephone service. Avtom., telem. i sviaz' 9 no.3: 36-37 Mr '65. (MIRA 18:11)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo transporta.

YEFREMOV, V.P.; OKUNEV, V.Ye.; KIM, D.V.

Small automatic recorder for logging. Trudy SNIIGGIMS no.27:92-94 '62. (MIRA 16:9)

1. Sibirskiy nauchno-issledovatel'skiy institut geologii, geofiziki i mineral'nogo syr'ya.
(Logging (Geology))

YEFREMOV, V.P.; OKUNEV, V. Ye.; KIM, D.V.

Code and graphic methods for the registration of parameters in geophysical methods of prospecting. Trudy SNIIGGIMS no. 30: 171-174 '64. (MIRA 19:1)

ATROSHENKO, V.S.; GLAZOVA, K.S.; MALKEVICH, M.S.; FEYGEL'SON, Ye.M.;
Prinimali uchastiye: KIM, E., studentka; TOMASHOVA, L., studentka;
ROZENBERG, G.G., prof., doktor fiz.-matem.nauk, otv.red.;
PENKINA, N.V., red.izd-va; SUSHKOVA, L.A., tekhn.red.

[Calculation of light intensity in the atmosphere during anisotropic scattering. Part 2] Raschet iarkosti sveta v atmosfere pri anizotropnom rasseianii. Chast' 2. Moskva, Izd-vo Akad.nauk SSSR, 1962. 222 p. (Akademiia nauk SSSR. Institut fiziki atmosfery. Trudy, no.3). [MICROFILM] (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet (for Kim, Tomashova).
(Light—Scattering) (Atmosphere)

KIM, F. N., Cand of Agri Sci -- (diss) "Flooding Conditions of Flood-land Estuaries in the Semi-arid Zone of Western Kazakhstan (on the Example of the "Tamdykul'" System of Estuary Irrigation of the Aktyubinskaya Oblast," Alma-Ata, 1959, 20 pp (Kazakh Academy of Agricultural Sciences. Scientific Research Institute for Water Economy) (KL, 7-60, 109)

SABIROV, M.S., kand.tekhn.nauk; KIM, F.N., inzh. (Alma-Ata)

Basin snow-water irrigation as an importan source of feed production. Gidr. i mel. 12 no.6:3-9 Je '60. (MIRA 13:7)
(Kazakhstan--Pastures and meadows--Irrigation)

KIM, G., ordinator

Congenital defect of the abdominal wall in a newborn infant.
Zdrav.Kazakh. 17 no.9:56 '57. (MIRA 12:6)

1. Iz Teren'-Uzyakskoy bol'nitsy Kzyl-Ordinskoy oblasti.
(INFANTS (NEWBORN)) (ABDOMEN--ABNORMITIES AND DEFORMITIES)

VOYEVODIN, V.V.; KIM, G.

Use of a rotation method in a program for finding the eigenvalues and eigenvectors of a symmetrical matrix. Vych. met. i prog. 1:269-277 '62. (MIRA 15:8)

(Matrices) (Eigenvalues)

AUTHORS: Voyevodin, V. V., Kim, G. S/794/62/000/001/008/010

TITLE: A program for the determination of the eigenvalues and eigenvectors of a symmetrical matrix by the rotation method.

SOURCE: Vychislitel'nyye metody i programmirovaniye; sbornik rabot Vychislitel'nogo tsentra Moskovskogo universiteta. no. 1. Ed. by N. P. Trifonov, G. S. Roslyakov, and Ye. A. Zhogolev. [Moscow] Izd-vo Mosk. un-ta, 1962, 269-277.

TEXT: The paper describes the preparation of the so-called rotation method, or the Jacobian method as it is better known, for computation on high-speed electronic computers. In essence, the determination of the eigenvalues and eigenvectors of a symmetrical matrix, A, is equivalent to the determination of an orthogonal matrix, B, that would fulfill the equality $\Lambda = B'AB$, where Λ is the diagonal matrix of the eigenvalues. In the rotation method, the matrix B is determined as the limit of the sequence of the derivations of the matrices of simple rotations in which all the axes of the coordinates except two remain fixed. Here in each elementary rotation the maximum nondiagonal element of the matrix is excluded. It is precisely the need for selecting the greatest nondiagonal element in each rotation that constitutes the fundamental shortcoming of this method from the point of view of its use on high-speed electronic computers. After describing the so-called barrier method, frequently used

Card 1/2

to bypass the selection of the maximal nondiagonal element, the paper sets forth an alternative, simpler, method which, in addition to an increase of the overall speed of the work, affords a possibility at each step to control the magnitude of the nondiagonal element of the matrix. The algorithm employed in the newly-proposed program is identified in detail. The general characteristics of the computing program, which satisfies all requirements for standard subprograms adopted at the Computer Center of the MGU (Moscow State University) is set forth; the eigenvalues and eigenvectors of a symmetrical matrix up to the 29th order, inclusive, can be found by this program. The logical scheme of the program is set forth step by step. The method for the selection of the nondiagonal element set forth in the paper has been fully verified in practice. Mass computations for matrices of the 10th and 20th orders, the eigenvalues of which were of the order of unity, were performed according to the program set up by the Computer Center of MGU. The iterations were carried out until the selected nondiagonal element became smaller than 10^{-7}, which is equivalent to finding the coefficients of the characteristic polynomial with an accuracy of the order of 10^{-14}. With this stipulation all eigenvalues and eigenvectors of matrices of the 10th order were found on the machine "Strela" within 40-45 sec, for a matrix of the 20th order within 100-140 sec. There are 2 references (1 Russian-language Soviet, 1 presumably English-language original in Russian translation).

KIM, G.A.

General characteristics of floodland and meadow vegetation along the Goryn' River. Biul.Inst.biol.AN BSSR no.3:53-58 '58.
(MIRA 13:7)

(GORYN' VALLEY--BOTANY)

KIM, G.A.

Preliminary classification of meadow vegetation of the Goryn' River lowland. Biul.Inst.biol.AN BSSR no.3:59-63 '58.
(MIRA 13:7)

(GORYN' VALLEY--BOTANY)

KRUGANOVA, Ye.A.; KIM, G.A.; YASINSKIY, I.I.

Effect of prolonged grazing on the specific composition of grass stands in natural pastures. Biul. Inst. biol. AN BSSR no.5:17-25 '60. (MIRA 14:7)

(PASTURES AND MEADOWS)
(GRAZING)

KIM, G.A.

Meadows with the tufted hairgrass [Deschmpsia caespitosa (l.) P.B.] in the flood plain of the Goryn River. Biul. Inst. biol. AN BSSR no.6:94-99 '61. (MIRA 15:3)
(GORYN VALLEY--PASTURES AND MEADOWS)
(DESCHAMPSIA)

KRUGANOVA, Ye.A.; KIM, G.A.; BURTYS, N.A.

Meadows in the Valuvka floodplain and the ways of their transformation. Bot. issl. Bel. otd. VBO no.6:61-69 '64. (MIRA 18:7)

YURKEVICH, I.D.; KIM, G.A.

Effect of salts of 2,4-D and 2M-4Kh on the germination and sprouting of some meadow grass seeds. Bot.; issl. Bel.otd.VBO no.7:20-25 '65.

(MIRA 18:12)

KIM, G.F., otv.red.; VAYNTSVAYG, N.K., red.; LEZIN, V.V., red.; SAMSONOV, G.Ye., red.; TYAGAY, G.D., red.; SHABSHINA F.I., red.; ANGORA, T.M., red.izd-va; GAMAZKOV, K.A., red.izd-va; TSVETKOVA, S.V., tekhn.red.

[Southern Korea; economic and political conditions from 1945 through 1958] IUzhnaia Koreia; ekonomicheskoe i politicheskoe polozhenie, 1945-1958 gg. Moskva, Izd-vo vostochnoi lit-ry, 1959. 270 p. (MIRA 13:2)

1. Akademiya nauk SSSR. Institut vostokovedeniya.
(Korea, South--Economic conditions)
(Korea, South--Politics and government)

KIM, Georgiy Fedorovich

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KIM, G.I. (Moskva)

Energy integral in the dynamics of a system of points with variable mass. Inzh. zhur. 5 no.6:1101-1103 '65.
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YESHPANOV, D.O., inzh.; KIM, G.N., inzh.; IBRAYEV, T.I., inzh.; FREY, L.I., tekhnik

Effect of individual factors on the stability of the roof. Izv. vys. ucheb. zav.; gor. zhur. 6 no.7:85-86 '63. (MIRA 16:9)

1. Dzhezkazganskiy gornometallurgicheskiy kombinat.
(Mining engineering)

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44,55

AUTHOR: Kim, G. N. (Moscow)

36
B

ORG: None

TITLE: A possible manner of writing equations for the dynamics of a system of points of a variable mass

SOURCE: Inzhenernyy zhurnal, v. 5, no. 5, 1965, 936-940

16, 44, 55

TOPIC TAGS: solid dynamics, Euler equation, mathematic analysis

ABSTRACT: The dynamics of a point and of a system of points of a variable mass is constructed on the basis of the Meshcherskii equation: 16, 44, 55

$$m\frac{dv}{dt} = F + P, \qquad (1.1)$$

where F is the resultant of the external forces, and P is the resultant of the reactive forces determined by a change in the mass of a point. In particular, on

Card 1/3 UDC:531.395

the basis of this equation are derived equations expressing the basic theorems of the dynamics of a system of points of a variable mass and the equations of motion of such systems. In the above equation the mass, m, is not a constant, which complicates derivation of the equations. However, this difficulty can be avoided if the principle of a fixed mass is introduced at the very start. To formulate this, we introduce the operation of partial differential with fixed masses. We assume a function of the times, masses, coordinates, velocities, and accelerations of the points of the system: $\Phi = \Phi(t, m_\nu, q_{i_1}, \dot{q}_{i_1}, \ddot{q}_{i_1})$.

The masses are functions of the times, coordinates, and velocities:

$$m_\nu = m_\nu(t, q_i, \dot{q}_i).$$

We introduce the partial derivatives of the function φ with respect to $t, q_i, \dot{q}_i$, and $\ddot{q}_i$, under the condition that the masses of all the points of the system are fixed; these derivatives are designated as follows:

$$\frac{\partial^* \Phi}{\partial t}, \quad \frac{\partial^* \Phi}{\partial i}, \quad \frac{\partial^* \Phi}{\partial q_i}, \quad \frac{\partial^* \Phi}{\partial \dot{q}_i}, \quad \frac{\partial^* \Phi}{\partial \ddot{q}_i}.$$

The Meshcherskii equation may then be written in the following form:

$$\frac{d^2}{dt}(mv) = P + P \qquad (1.2)$$

We thus arrive at the principle of fixed mass. On this basis, the article proceeds to the derivation of the Euler dynamic equations:

$$\begin{aligned} A\frac{dp}{dt} + (C-B)qr &= M_{P\xi} + M_{P\xi}, \\ B\frac{dq}{dt} + (A-C)pr &= M_{P\eta} + M_{P\eta}, \\ C\frac{dr}{dt} + (B-A)pq &= M_{P\zeta} + M_{P\zeta}. \end{aligned}$$

Orig. art. has: 14 formulas

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S/128/61/000/003/002/008
A054/A127

11500

AUTHORS: Ivanov, V. A., Kim, G. P.

TITLE: Casting of experimental batches of turbine wheels from ЭИ572 (EI572) steel with investment patterns

PERIODICAL: Liteynoye proizvodstvo, no. 3, 1961, 4-6

TEXT: At the Chelyabinskiy traktornyy zavod (Chelyabinsk Tractor Plant) a new tractor, type T-130 was designed with a ТКР-11 (TKR-11) type turbocompressor to perform the function of a booster, which so far has not been incorporated in conventional tractor designs. The most intricate part of this turbocompressor i its wheel which has to work at elevated temperatures, ranging between 600-640° C at a rotational speed of 38,000-42,000 rpm's. It consists of 18 regularly spaced blades with a deviation in pitch of ± 0.3 mm. The finished blade has a thickness of 0.8 ± 0.2 mm at its thinnest part. The wheel is produced by precision casting with investment patterns from the ПС 50/50 (PS 50/50) compound cast in metallic press molds at 43-45°C. A special riser system had to be prepared from the same PS 50/50 compound by press-molding. (Figure 3). The turbine wheels are cast from

Card 1/4

Casting of experimental batches...

EI572 steel produced in the МГП-102(MGP-102) induction furnace with basic lining. The charge contained: sandblasted and dry steel waste (St.10), Ni, FeW, FeSi-45%, FeMo, electrode scrap etc. In subsequent meltings, 50% of the waste may be reused. Before charging, the furnace is flushed with a carbon-steel melt. The weight of the charge equals 150 kg. Melting is carried out at high speed and the maximum power of the induction generator. To eliminate unfavorable oxidization, a slag-forming mixture , consisting of 85% chromium-magnesite and 15% fluorite was added. After the whole charge was melted it was necessary to cover the whole surface of the molten metal with slag. After having heated the metal up to 1,540 - 1,560°C, the slag was removed and FeNb and low-carbon FeMn were introduced. At 1,600°C Ferrosilicon is added, followed by FeTi. After these additives had dissolved, the slag was removed again at 1,650 - 1,670°C and the oxidizer SiCa was added. Then the molten metal was poured into ladles with a 30-kg capacity, which have been heated up to 600 - 700°C. These ladles have also been lined with chromium-magnesite. Major difficulties of this process is the preparation of the investment pattern blocks consisting of the wheel pattern and the special

Casting of experimental batches...

riser system pattern on the one hand and the burning up of ferrotitanium up to 60 - 70% on the other hand. To overcome the latter shortcoming, it was recommended to introduce titanium powder in portions of 70 g into the metal jet being poured into the ladle. To enhance deoxidization, 15 - 20 g metallic aluminum was added to the melt in the ladle. After removal of the slag the molten metal is poured into the preheated shell molds (pattern blocks). Continuous flow of the metal jet at a minimum length of the same should be maintained. After cooling, the cast wheels are shaken out, the risers cut off with an abrasive disc prepared on a volcanite base; then they are dipped into a KOH solution and washed. Then the castings are hardened at 1,160 - 1,180°C in water (with a holding time of 2 - 3 hrs) and age-treated at 800°C for 10hrs. After this heat treatment the experimental castings have the following specifications: at room temperature (20°C), $\sigma_b \geq 62$ kg/mm^2; $\delta \geq 10\%$; $a_k = 2.8$ kgm/cm^2; at 600°C, $\sigma_b \geq 45$ kg/mm^2; $\delta \geq 14\%$; $a_k = 5.0$ kgm/cm^2. Finally, the turbine wheels are cleaned by hydrojet blasting and passivated in a solution of 1.2% $NaNO_2$ and 0.5% Na_2CO_3. In addition to normal inspection methods magnetic defectoscopy and X-ray inspection is

Card 3/4

Casting of experimental batches...

used. According to footnote 1, heat treatment methods have been established by the TsNIDI Institute. There are 4 figures.

Figure 1: Two cast turbine wheels

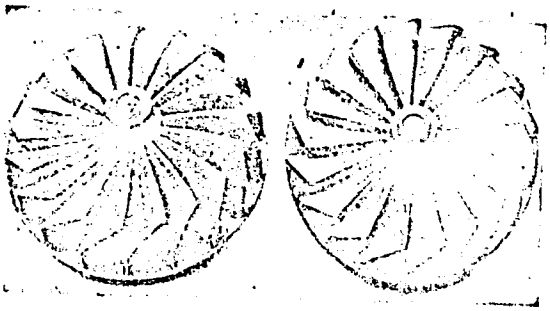
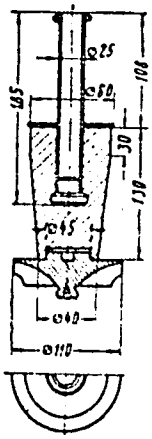


Figure 2: Special riser system



Card 4/4

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