"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

44014

S/860/61/000/000/009/020
A006/A101

AUTHORS: Ivanov, A. M., Nikitin, V. M., Kalitin, I. S.

TITLE: Flux for electric resistance-butt welding of molybdenum

SOURCE: Sbornik izobreteniy; svarochnaya tekhnika. Kom. po delam izobr. i otkrytiy. Moscow, Tsentr. byuro tekhn. inform. 1961, 131 (Author's Certificate no. 119423, cl. 49h, 36_{02}, no. 597985 of April 22, 1958)

TEXT: The flux proposed for the electric resistance-butt welding of molybdenum is composed of 80 - 90% zirconium, 10 - 5% molybdenum, and 10 - 5% carbon. The use of this flux assures an increased strength of the welded joints and reduces the costs of welding operations. The flux is recommended by the TsNIITMASh Institute.

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S/121/63/000/002/006/010
D040/D112

AUTHORS: Shneyder, Yu.G., and Nikitin, V.M.

TITLE: Finishing butt end surfaces by pressure

PERIODICAL: Stanki i instrument, no.2, 1963, 29-30

TEXT: A new ball burnishing method for flat and spherical butt end surfaces is described. The method uses a resiliently mounted freely rotating large diameter ball under slight pressure, and is performed on a lathe. One burnishing pass with a ball, 120 mm in diameter, gives a mirror finish on surfaces preliminarily machined by cutting to 7-8th class finish. The article presents the results of an experimental investigation in which specimens of steel, brass, cast iron and duralumin were burnished, and the effect of the ball diameter and pressure determined. The ball mounting is described and illustrated. Burnishing of grade "45" steel covers by a 6mm ball on a turret lathe is also practiced. The simplicity and high productivity of the method is emphasized. There are 5 figures.

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L 17037-63 EWP(r)/EWT(1)/EWT(m)/BDS AFFTC/ASD S/207/63/000/002/015/025

52

AUTHOR: Nikitin, V. M. (Leningrad)

TITLE: Investigation of elasticity of thin-walled structures using the Kerr effect 26

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1963, 130-131

TEXT: The existing methods for elastic investigations of thin-walled structures suffer either from difficulties in the interpretation of observations or from involved operations required for the preparation of the sample. The author offers a method based on the Kerr effect. It measures the displacements of the outer surface of the sample (almost identical with the middle layer of the very thin wall) and these displacements can be represented as functions of coordinates by methods of finite differences. Fig. 2 shows a sample made of translucent optically inert material immersed in a bath having transparent walls and filled with a fluid, e.g., a colloidal solution. One measures at a given point the wave differential that takes place in the space between the tank wall and the surface of the sample. Readings are taken before and after the deformation of the sample. The difference

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L 17037-63

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Investigation of elasticity...

0

between the two readings determines the magnitude of the sample displacement in the direction of the beam. The displacement in the direction perpendicular to the former can be determined by a coordinate-synchronous polarimeter. Repeated measurements at other points supply a fairly good characteristic of the strain state of the sample. There are 3 figures.

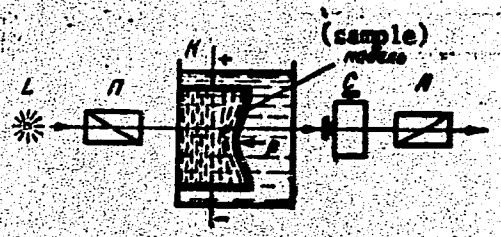

Fig. 2 [L - light source; П - polarizer; K - condenser immersed in fluid; C - compensator; A - analyzer.]

SUBMITTED: December 17, 1962

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

SHNEYDER, Yu.G.; NIKITIN, V.M.

Finish burnishing of end surfaces. Stan.i instr. 34 no.2:29-30 F '63. (MIRA 16:5)

(Metals—Finishing)

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

L 65191-65 EWT(m)/EWP(w)/EWP(v)/EWP(k) EM

ACCESSION NR: AR5019383 UR/0124/65/000/007/V053/V053

SOURCE: Ref. zh. Mekhanika, Abs. 7V418

AUTHOR: Nikitin, V. M.

TITLE: One possible method of defining optically the displacement of points in a thin-walled structure

CITED SOURCE: Sb. tr. Leningr. in-t inzh. zh.-d. transp., vyp. 229, 1964, 161-167

TOPIC TAGS: thin walled beam, material deformation, structure stability, mechanical stress

TRANSLATION: A sheet of optically sensitive material with an elastic modulus sufficiently low to avoid interference with deformation in a thin-walled structure is placed between that structure and a rigid base. Deflections of the structure are transmitted to the sensitive material, producing in it an artificial refraction of two beams. Deflections of the structure are then defined from the magnitude of refraction. To determine membrane stresses, the author recommends gluing a strip of the optically sensitive material perpendicularly to the surface of the structure. "Igdantin" is recommended as the optically sensitive material. The report cites data from an analysis of a cantilever bar.

Card 1/2

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

L 65191-65

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

L 45585-66 EWT(1)/EWT(m)/EWP(w)/EWP(v)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/WW/HM/EM
ACC NR: AP6031412 SOURCE CODE: UR/0135/66/000/009/0025/0027

AUTHOR: Nikitin, V. M. (Candidate of technical sciences); Fodionov, V. A. (Engineer)

ORG: Moscow Institute of Aviation Technology (Moskovskiy aviatsionnyy tekhnologicheskiy institut)

TITLE: Effect of clamping rigidity on the deformation of welds and the weld-adjacent zone in sheets

SOURCE: Svarochnoye proizvodstvo, no. 9, 1966, 25-27

TOPIC TAGS: superstrength steel, welding, TIG welding, weld clamping / VKS1 superstrength steel

ABSTRACT: TIG welding of VKS1 superstrength steel sheet specimens, 1.4—2.0 mm thick, 170 mm wide and 470 mm long, has been investigated. The specimens were clamped in a special fixture capable of developing a controlled clamping force of up to 100 kg/mm and welded from both sides without filler wire. It was found that the magnitude of deformation in the weld and the weld-adjacent zone depended on the rigidity of clamping. Welds made with a clamping force of 44 kg/mm were straight, and the thickness of the weld and of the weld-adjacent zone was greater than that of the base metal by 0.20—0.30 and 0.05—0.10 mm, respectively. At lower clamping forces, the welded sheets were distorted: the lower the clamping force, the greater the distortion. Since most of the fixtures used in industry have a clamping

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ACC NR: AP6031412

force not exceeding 4 kg/mm, the use of wedges, which prevent the longitudinal expansion of the weld (see Fig. 1), is recommended.

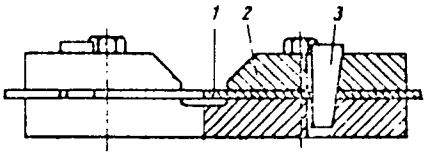

Fig. 1. Welding fixture equipped with wedge stops

1 - Welded sheets; 2 - clamps securing a longitudinal clamping of the edges; 3 - additional wedge stops.

Experiments showed that fixtures with a clamping force of 4 kg/mm, provided with wedges, prevent deformations effectively. In burst tests, sheets welded in such fixtures failed across the weld under a stress of 188.5—193.5 kg/mm^2, while sheets welded in a standard fixture failed along the weld at a stress of 186.3—188.5 kg/mm^2. Orig. art. has: 6 figures, 2 tables, and 1 formula. [TD]

SUB CODE: 11, 13, 14/ SUBM DATE: none/ ORIG REF: 002/
ATD PRESS: 5082

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

[illegible]

ACC NR: [illegible] 603262 [illegible] SOURCE CODE: [illegible]/000/0146/0161

[illegible]: Nikitin, V. M. (Tabulate of technical sciences); Rod[illegible] V. A. (Engineer)

[illegible]: none

TITLE: Welding VKS-1 high-strength steel

[illegible]: Moscow, Vysshaye tekhnicheskoye uchilishche. Avtomatizatsiya, mekhanizatsiya i tekhnologiya protsessov svarki (Automation, mechanization and technology of welding processes) Moscow, Izd-vo, Mashinostroyeniye, 1966, 146-161

[illegible]: steel, high strength steel, ~~steel~~ TIG welding, ~~submerged~~ arc welding, weld distortion, weld distortion prevention, weld heat treatment, weld strength VKS1 steel

ABSTRACT: Experiments have been made to determine the effect of the clamping force and welding thermal cycle on the distortion of joints in high-strength VKS-1 (42Kh2GSNM) martensitic steel. The steel contains (%) 0.45C, [illegible] Mn, 0.93 Si, 1.74 Cr, 0.68 Ni, 0.08 V, 0.60 Mo, and in the heat treated condition has a tensile strength of 190—200 kg/mm^2. Sheets 1.4 and 2.0 mm thick, clamped with a force of up to 100 kg/mm, were TIG welded from both sides. It was found that with increasing clamping force, the distortion can be totally prevented at a clamping force of 44 and 31 kg/mm for 2.0 and 1.4 mm thick sheets, respectively. Simultaneous local heat

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L 02971-67

ACC NR: AT6032627

treatment and welding were tested. A variant with an additional heat source (gas flame) trailing the arc at a distance of about 170 mm ensured a brief tempering of the weld and yielded the best results. In this variant, because of the relatively large distance between the arc and the additional heat source, each section is subjected to the action of two individual heat sources, and with rigid clamping no distortion occurred. Clamping devices used in industry develop a clamping force not exceeding 4 kg/mm. Therefore, a method of rigid clamping has been developed at MATI in which the sheets, in addition to the usual clamping along the faying edges, are held at the end with wedges. This method yielded welds with a strength of 190.7 kg/mm^2 compared with 187.4 kg/mm^2 for the welds of conventionally clamped sheets. In submerged arc welding of VKS-1 steel, AN-15 flux (25.5% SiO_2, 2.2% MnO) was found to be the best. It ensured a stable arc, satisfactory weld formation, a weld notch toghness of 6.88—7.45 kg·m/cm^2, and a weld tensile strength of 173.7—177.8 kg/mm^2, compared with 7.31 kg·m/cm^2 and 206—209 kg/mm^2 for the parent metal. Orig. art. has: 8 figures and 9 tables.

SUB CODE: 13/ 11/ SUBM DATE: 14May66/ ORIG REF: 010/ ATD PRESS: 5099

Card 2/2 egh

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.

Role of vaccination in protecting the organism against infection through inhalation. Report No.1. Zhur.mikrobiol.epid. i immun. 28 no.12:90-93 D '57. (MIRA 11:4)

1. Iz kafedry mikrobiologii Voyeno-meditsinskoy ordena Lenina akademii im. S.M. Kirova.
(SALMONELLA INFECTIONS, experimental,
breslau, vacc. against air-borne infect. (Rus)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.

Role of vaccinal immunity in protecting the body against inhalation infection, author's abstract. Report No.1. Zhur.mikrobiol.epid. i immun. 29 no.2:130-131 F '58. (MIRA 11:4)

1. Iz kafedry mikrobiologii Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova.
(PASTEURELLA, infections,
avis, eff. of vacc. on immun. against air-borne infect. in rabbits (Rus)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

SINITSKIY, A.A.; D'YAKOV, S.I.; MIKHAYLOV, I.F.; NIKITIN, V.M.; OSIPOVA, I.V.

Use of an indirect method for staining P. pestis with fluorescent antibodies. Report No.1:Specificity of staining and morphological characteristics of plague vaccine cells. Zhur.mikrobiol.epid.i immun. 31 no.11:35-39 N '60. (MIRA 14:6)

1. Iz Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova.
(PLAGUE) (VACCINES) (ANTIGENS AND ANTIBODIES)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.

Fluorescence method of examining spores using trypaflavine acetate. Lab. delo 8 [i.e.9] no.1:48-50 Ja '63. (MIRA 16:5)

1. Kafedra mikrobiologii Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(FLUORESCENCE MICROSCOPY) (ACRIFLAVINE)
(BACTERIA, SPOREFORMING)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

ZOLOCHEVSKIY, M.A.; NIKITIN, V.M.

C-reactive protein and its immunological significance in the immunization with Scientific Research and Experimental Serological Institute polyvaccine. Report no.1: Duration of manifestation of C-reactive protein and its correlation with nonspecific indices of the physiological state of the body following immunization with Scientific Research and Experimental Serological Institute polyvaccine. Zhur. mikrobiol., epid. i immun. 33 no.11:106-110 N '62.

(MIRA 17:1)

1. Iz Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

DASHKEVICH, I.O.; D'YAKOV, S.I.; NIKITIN, V.M.; OSIPOVA, I.V.

Methodology for the treatment of bacteriological preparations with fluorescent antibodies. Zhur. mikrobiol., epid. i immun. 33 no.7:101-107 Jl '62. (MIRA 17:1)

1. Iz kafedr mikrobiologii i biokhimii Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

MARINETS, T.K.; NIKITIN, V.M.

Temperature regulation scheme for MP-2U furnaces. Zav. lab. 30 no.9:1148 '64. (MIRA 18:3)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina, M.I.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

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BE[illegible]YAKOV, V.[illegible]; [illegible]KIY, [illegible]; [illegible], [illegible]; [illegible], [illegible].

Correlations [illegible] and [illegible] reconstruction of the [illegible] and the [illegible] active protein in polyvac[illegible] immunization. [illegible] epid. [illegible].

[illegible] Voyenno-[illegible] Kirova, Leningrad.

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Determination of acidity of methanol V. M. Nikitin. *Zavodskaya Lab.* 4, 659-61(1935). A considerable part of the acidity of synthetic MeOH depends on the presence of absorbed CO_2. Hence the titration of crude and rectified MeOH with NaOH in the presence of phenolphthalein as indicator should be carried out after refluxing of the sample for 30-45 min. to expel the CO_2. MeOH should be neutralized in the still with the calcd. amt. of NaOH for the true acidity after the expulsion of CO_2 has been completed. This procedure eliminates the formation of $NaHCO_3$ with the clogging and corrosion of tubes in the still. C. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BC

B-II-1

Influence of conditions of synthesis on quality of methyl alcohol. V. N. [illegible] (J. Chem. Ind. Russ., 1935, 12, 1234—1236).—The content of impurities [AcOH, MeOAc, $COMe_2$, CH_2·CH·CHO (I), and higher alcohols] in synthetic MeOH rises with increasing Cr content of the catalyst (8 : 1·2—1·35 ZnO-Cr_2O_3). The AcOH content falls with increasing duration of contact, that of (I) remains unchanged, whilst that of other impurities falls. Raising the temp. of contact from 400° to 424° increases the content of all impurities, whilst increasing the proportion of H_2 in the mixture reduces it (in particular, esters and $COMe_2$). The presence of CO_2 in the H_2-CO mixtures has no direct action, except that due to dilution of the substrates.

R. T.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

By-products of methanol synthesis. V. M. Nikitin *Org. Chem. Ind.* (U. S. S. R.) 2, 392-7 (1936); cf. *C. A.* 30, 7838[6]. - Study of the properties of all combinations of binary systems of iso-BuOH, iso-BuOAc and H_2O includes mutual solubilities at various temps., equil. of liquid and vapor phases, azeotropic mixts., d. and n. The exptl. results are tabulated, graphed and discussed. With increasing temp. the solv. of iso-BuOH in H_2O decreases and that of H_2O in iso-BuOH increases. The azeotropic mixt. is composed of 68 mol. % of H_2O and 32 mol. % of iso-BuOH. Chas. Blanc

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PROCESSES AND PROPERTIES INDEX

10

The use of higher alcohols obtained in the synthesis of methanol. Ya. A. Fel'dman and V. M. Nikitin. *J. Chem. Ind.* (Moscow) 13, 922-4(1936). The higher boiling fraction from synthetic MeOH is treated with 47.5-500 kg. of HOAc per ton of alcs., and 4-5% of the wt. of HOAc of H_2SO_4 and refluxed for 1.5-2 hrs. The MeOAc distd. off in yields of 1-20%, up to 72°. Distn. is continued to 87°, yielding a mixt. of iso-BuOH, iso-BuOAc and H_2O. The H_2O is sep'd. and the other components returned to the still and redistd. In this way 40-60% of iso-BuOAc is obtained. The H_2O soln. is salted out with 25% its wt. of NaCl and gives 3-3.5% iso-PrOAc and iso-BuOAc. H. M. Leicester

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By products of methanol synthesis

METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

BC

B-2-1

Working-up of residues from methyl alcohol synthesis. III. V. M. Nikitin (J. Chem. Ind. Russ., 1937, 14, 993—996; cf. B., 1938, 36).—The bulk of the H_2O in wet Bu^BOH is salted out with aq. NaCl, and the product is distilled. Alternatively, residual H_2O is removed by shaking with anhyd. $CaSO_4$, followed by distillation. R. T.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Bc

B-II-1

Purification of crude synthetic methyl alcohol by oxidising agents. V. M. NIKITIN (J. Chem. Ind. Russ., 1937, 14, 1067—1072).—Satisfactory purification of crude MeOH is achieved by diluting to 75% MeOH and heating with $KMnO_4$ at 30°. $CaOCl_2$ or NaOCl also oxidises impurities, but the product contains Cl, and the process requires special non-corroding containers. The action of $K_2Cr_2O_7$ in feebly acid solution is slow, and also involves corrosion of Fe vessels. Oxidation by atm. O_2 in presence of Fe^{III} and Cu^{II} is slow. The rate of decoloration of $KMnO_4$ by MeOH depends, not only on the content of unsaturated compounds and aldehydes, but also on that of Fe^{III} and Cu^{II}; Fe^{III} originates from decomp. of $Fe(CO)_5$, and Cu^{II} from decomp. of some unidentified volatile Cu compound. R. T.

COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BC

B-II-1

Role of copper in methyl alcohol catalysts. V. M. Nikitin (J. Chem. Ind. Russ., 1937, 14, 1229—1230).—Polemical, against Porpochov (B., 1937, 116, 646). R. T.

COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

2

ea

The promoting action of mercury upon aluminum oxide in the dehydration of ethanol. V. M. Nikitin and N. V. Razumov. *J. Gen. Chem.* (U. S. S. R.) 11, 133 5(1941).

In prepn. of ethylene by dehydration of EtOH by poorly active Al_2O_3 an accidental introduction of Hg on the catalyst was found to have a strong promoting action. Further study showed that in the range of 380-420° at low space velocities of 30 and 60, the use of Hg-coated Al_2O_3 (com. low-activity alumina heated to 350° with metallic Hg) increased the yields by 25%. In a second series of expts., active alumina was prepd. by pptn. of $Al(NO_3)_3$ by NH_4OH, washing, drying and baking at 300-50°, followed by treatment with Hg or Hg acetate in soln., followed by baking at 300-50°. In the range of 350-425° at space velocities of 60 to 2000, the activated catalyst also showed comparable increase in yields, being comparable with untreated catalyst at 370° and space velocity of 60, but with a 30% increased yield at space velocity of 2000. At 400° the latter value was 20% and at 425° it was 15%. The catalyst was found to retain only 0.5% Hg by wt., the excess distg. off on heating. The method of application of Hg to Al_2O_3 is immaterial. G. M. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

Cd

10

Influence of cadmium on the process of dehydration of ethanol over alumina. V. M. Nikitin. *J. Gen. Chem.* (U.S.S.R.) 15, 273-6(1945)(English summary). The decompn. of EtOH over Al_2O_3 in the presence of $Cd(NO_3)_2$ (1:6 to 1:60 mol. ratio) was studied. It was shown that the Cd causes the catalyst to become a dehydrogenator, with Al_2O_3 acting merely as a carrier for the active Cd points. The temp. range studied was 350–425°. The products included CO_2, C_2H_4, H, CH_4, Et_2O, AcOH, complex esters and aldehydes, AcH, Me_2CO, and crotonaldehyde. The complex products are the result of further reactions of the initially formed AcH G. M. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

Ca 18

Products of thermal isomerization of α-pinene. I. Influence of temperature on the isomerization process. V. M. Nikitin (Arkhangel Forest Inst.). *J. Gen. Chem.* (U.S.S.R.) 16, 1041-6(1946) (in Russian). The temp. of isomerization of α-pinene (I) affects the various products (in terms of yield) in a different manner. Isomerization by passage through a heated tube begins to be noticeable at 350°; above 425°, cracking processes introduce complications. The rate of isomerization increases with the temp. and at temps. of 400° or above, no unreacted pinene was found in the condensate. The amt. of pyronenes (II) increases with temp. and reaches 50% at 425°. The amt of dipentene is the same at all temps. studied, i.e. about 30-5%, based on pinene. The amt. of alloocimene passes through a max. at 400° (40%). II. **Influence of time on the direction of isomerization of α-pinene.** *Ibid.* 1047-52.—The contact time affects the direction of isomerization of I. At 350° total isomerization requires 28.8 sec., while at 400° only 4 sec. is needed. Increase of contact time increases the content of II at all temps. studied.

G. M. Kosolapoff

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

COMMON ELEMENTS

COMMON VARIABLES INDEX

Products of thermal isomerization of α-pinene. III. Mechanism of the isomerization. N. M. Nikitin (Arkhangelsk Forest. Inst.). *J. Gen. Chem.* (U.S.S.R.) 16, 1475-80(1946)(in Russian); cf. *C.A.* 41, 2712g. Alloocimene was passed through an Fe pipe at 400° with contact time of 26.2 sec. to yield a crude condensate, n_D^{10} 1.4700, d_4^{10} 0.8415. Fractionation showed this to consist of 36% α-pyronene, 38% β-pyronene, and residual starting material with traces of polymers. This shows that pyronenes are secondary products of thermal isomerization of pinene and arise from alloocimene by cyclization. The following isomerization scheme is proposed for α-pinene:

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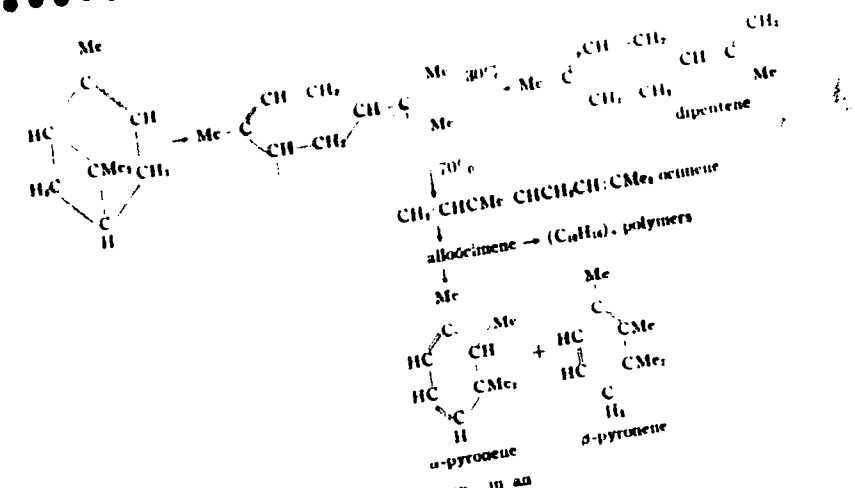

Dipentene is formed independently of the temp., in an amt. approx. equal to 1/3 of the α-pinene reacted.
G. M. Kosolapoff

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83622

S/135/60/000/001/002/005
A006/A001

18 7200 1506, 1573

AUTHORS: Lyubavskiy, K. V., Professor, Doctor of Technical Sciences, Nikitin, V. M., Candidate of Technical Sciences, Murov, O. F. Engineer

TITLE: Welding in Carbon Dioxide of 30ХГСА (30KhGSA) Steel in Hardened State

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 1, pp. 4-6

TEXT: The strength of some portions of 30KhGSA steel welds is different due to the presence of hardening and tempering structures. This non-uniformity in the properties of weld joints may be reduced by diminishing the hardness in the hardened section of the zone adjacent to the seam. This can be accomplished by changing the thermal cycle of welding using an additional portable heat source, such as a gas burner moving at a certain distance behind the welding arc. Tests made with a conventional thermal cycle, where the metal in the zone adjacent to the seam was subjected only to the effect of the arc, confirmed V. V. D'yachenko's (Ref. 1) conclusion that the less facorable combination of mechanical properties was observed in the zone of hardening adjacent to the seam

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A006/A001

Welding in Carbon Dioxide of 30ХГСА (30KhGSA) Steel in Hardened State

with 500 H_v hardness, at 400 H_v hardness of the base metal, and toughness reduced form 6 to 2.5 kgm/cm^2. N. N. Rykalin's formulae were used to calculate analytically some variants of thermal cycles when welding 2 mm thick 30KhGSA sheet steel hardened to σ_b 110 - 130 kg/mm^2, using 18ХМА (18KhMA) electrode wire of 1.2 - 1.6 mm in diameter and an additional heat source The following variants were calculated: 1. After the effect of the arc, the metal in the zone adjacent to the seam is cooled down to 150°C and is then heated by a gas burner flame to 600°C. The cooling curve crosses the line of beginning martensite transformation about 70 seconds after the action of the arc on the metal The distance between the welding arc and the gas burner at the chosen welding rate (20 m/h) is 700 mm. 2. Heating with the gas burner flame begins before the cooling curve after welding attains the M_o line. [Abstractor's note Subscript o is the translation from the original n (nachalo = onset) M_o = onset of martensite transformation]. The maximum heating temperature is 600°C, the cooling curve crosses the M_o line 160 sec after the arc's action on the metal. The distance between the arc and the burner is 350 mm. 3. Analogous to variant 2, but differing from it by the use of a supplementary (second) burner arranged a

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A006/A001

Welding in Carbon Dioxide of 30ХГСА (30KhGSA) Steel in Hardened State

350 mm from the first one. The cooling curve crosses the M_p line 250 sec after the arc's effect on the metal. On the basis of data calculated, a laboratory installation was developed, used to reproduce and correct the three variants established. A series of plates were welded and the actual thermal cycles were determined, using chromel-alumel thermocouples switched to an МПО-2 (MPO-2) oscillograph. The comparison of calculated and experimental data showed a satisfactory agreement. The plates welded were subjected to a detailed analysis to reveal the effect of the experimental thermal cycles on the mechanical properties of the weld joints and the magnitude of the zone of the thermal effect. The results of the analysis lead to the following conclusions: All the experimental thermal cycles reduced the hardness of the hardened portion in the zone adjacent to the seam and raised its toughness. Expansion of the zone of thermal effect was not observed in welding by any of the variants. This may be explained by the fact that the temperature of heating the metal with the flame is lower than that of heating with the arc in the same welding area. Variant 3 may be considered as an optimum version of the thermal cycles making it possible to equalize somewhat the mechanical properties of different zones in the weld

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Welding in Carbon Dioxide of 30ХГСА (30KhGSA) Steel in Hardened State

metal. This type of cycle increases the ductile properties of the weld joints and reduces the probability of hardening cracking in the welding area. There are 7 figures, 1 table and 2 Soviet references.

ASSOCIATION: Kafedra "Svarochnoye proizvodstvo" MVMI (The Department of "Welding Practice" at MVMI)

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NIKITIN, V. M. PA 13T26

USSR/Chemistry - Isomerization Sep 1946
Chemistry - Alpha-pinene

"A Study of the Products of Thermal Isomerization of Alpha-Pinene: VII, On the Preparative Production of Alpha- and Beta-Pyronenes," V. M. Nikitin, 5 pp

"Zhur Prik Khim" Vol XIX, No 9

Suggestion of a method for preparative production by isomerization of alpha-pinene into allocymen and conversion of allocymen into alpha- and beta-pyronenes by thermal isomerization.

13T26

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PROCESSES AND EQUIPMENT INDEX

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Ca

Products of thermal isomerization of α-pinene. IX. Composition of dry rectified turpentine. V. M. Nikitin. *J. Applied Chem.* (U.S.S.R.) 19, 1401-6(1946)(in Russian); cf. *C.A.* 41, 6550a.—Samples of turpentine taken 8 (I), 12 (II) and 20 hrs. (III) after the beginning of rectification were treated with 20% KOH (to remove the phenols and acids), causing a reduction in vol. of 10.3, 9.3, and 17.5%, resp.; there was no reduction in vol. on repeating the treatment. The samples were dried with fused $CuSO_4$; preliminary tests showed this treatment did not cause any isomerization. The samples were distd. twice over a column 1.5 m. by 30 mm.; α-pyronene could not be isolated, but its presence was indicated by the formation of a cryst. addn. product with maleic anhydride, β-pyronene, by the formation of an addn. product, m. 162-3°, with maleic anhydride, and hemimellitic acid, m. 190°, the approx. compn. of the distillate from II was α-pinene, with some α-pyronene, 54%, and β-pyronene 12%; in the isomerization of allocimene (C. 41, 5487a) equal amts. of α- and β-pyronene were formed. On this basis, the compn. of samples II and III, resp., were, α-pyronene 12 and 13, α-pinene 42, 45, β-pyronene 12, 13; dipentene 14, 10, alc. 5, 7.5, polymerized residues 8.3, 8.5, losses 0.7, 4%. No Δ^4-carene was found. H. Cutoff

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NIKITIN, V. M. Dr. Chem. Sci.

Dissertation: "Investigation of Certain Products Obtained by Thermal Isomerization of alpha-Pinene". Inst of Organic Chemistry, Acad Sci USSR, 11 Dec 47.

SO: Vechernyaya Moskva, Dec, 1947 (Project #17836)

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NIKITIN, V. M.

15T84

USSR/Chemistry - Pyrene Mar 1947
Chemistry - Polymers

"Studying the Products of Thermal Isomerization of Alpha-Pyrene: IV, Action of Hydrogen Chloride on Allocymen," V. M. Nikitin, 3 pp

"Zhur Obshch Khim" Vol XVII, No 3

Combination of hydrogen chloride in conditions of low temperature with allocymen yielding unstable products decomposing upon heating into a dimer and HCl.

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1ST AND 2ND ORDERS — PROCESSES AND PROPERTIES INDEX — 3RD AND 4TH ORDERS

Products of thermal isomerization of α-pinene. V. Action of bromine on alloöcimene. V. M. Nikitin (Arkhangelsk Forestry Inst.). *J. Gen. Chem.* (U.S.S.R.) 17, 1637-9(1947)(in Russian); cf. *C.A.* 42, 5426.—Addn. of 2 Br to alloöcimene (I) gives a product which on heating loses approx. half of the Br in the form of HBr; alc. KOH in the cold also removes a comparable amt. of HBr. Use of 4 Br gives a product which on heating loses 2 HBr; over 4 Br gives a soln. with a color characteristic of Br solns. and may be used as a qual. test for I in the presence of other terpenes. I (107 g.) in 400 cc. $CHCl_3$ was treated at −5° to 10° with 125 g. Br in 200 cc. $CHCl_3$; the black-violet soln. on evapo. on a steam bath lost 60 g. HBr; the residue was a black mass; 120 g. of this was distd., b_{10} 33–190°, n_D^{20} 1.5105–1.5380. The 1st fraction, b_{10} 33–79°, 21.1 g., n_D^{20} 1.5105, consisted of unreacted I, etc. The fraction (22 g.) b_{10} 150–90°, n_D^{20} 1.5300–1.5380, was $C_{10}H_{16}Br$. When 100 g. I was brominated with 118 g. Br in $(CH_2Cl)_2$ at −5° to 15°, and the reaction product was treated with about 0.5 the theoretical amt. of alc. KOH, the blue-violet soln. became yellow; the total amt. of HBr liberated when permanent discoloration was attained was 82 g.; refluxing led to the loss of 43 g. addnl. HBr; apparently I dibromide contains about half of the Br in the form of a tertiary bromide. I (5 g.) with 12.8 g. Br formed the tetrabromide in $CHCl_3$; the black-violet product, on evapo. of the solvent, lost 6.1 g. HBr; the liberated HBr led to polymerization of the entire residue into a hard brittle resin. Similar tendency was observed in the dibromide. When I in $(CH_2Cl)_2$ was treated slowly with Br with cooling, after the tetrabromide formation was complete, the dark color vanished and was replaced by the reddish Br color, which persisted 24 hrs. Neither α-pinene, Δ^3-carene, dipentene, α-pyronene, nor β-pyronene gave color reactions with Br. G. M. Kosolapoff

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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CA

Products of thermal isomerization of α-pinene XV Alloöcimene direct from turpentine V. M. Nikitin. *Zhur. Prikład. Khim.* (J. Applied Chem. (U.S.S.R.)) 20, 1036-7(1947); cf. C.A. 42, 7275i. When turpentine oil contg. about 60% α-pinene is passed through an Fe tube heated to 400°, the yield of alloöcimene is max. (27% in the condensate) for a contact time of 4.7 sec.; it drops to 14 and 17.8%, resp., for 2.5 and 10.3 sec. From 10 kg. turpentine oil, 2.75 kg. pure alloöcimene could be obtained by fractionation of the isomerization product. A drawback of the process is the difficulty of sepg. the α- and β-pyronenes and the dipentene from Δ³-carene. N. T.

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NIKITIN, V.M.

Products of thermal isomerization of α-pinene. IX. Air oxidation of alloöcimene and formation of the alcohol. V. M. Nikitin (Forestry Inst., Arkhangelsk). *J. Gen. Chem.* (U.S.S.R.) 18, 209-12(1948)(in Russian); cf. *C.A.* 42, 150*h*.—Alloöcimene on standing in air 3 months is almost completely oxidized and on distn. boils substantially above 100° at 50 mm.; the resulting *alc.*, $C_{10}H_{16}O$, however, is most conveniently prepd. by catalyzed oxidation, as follows. Alloöcimene (300 g.) was blown with air at 100° in the presence of resinates of Co, Ni, Mn, Pb, or Fe (in the absence of a catalyst the reaction is almost as rapid) 40 hrs., using 2% by wt. of catalyst. Distn. of the total mass of reaction products (550 g.) gave after 2 distns. 200 g. pure alc., b_4 98-100°, d. 0.945, n_D^{20} 1.4740; heating with Ac_2O-NaOAc gave the *acetate*, d_4^{20} 0.970, n_D^{20} 1.4880; the Na deriv. of the alc. with EtI gave the *EtO deriv.* (isolated by steam distn.), b_{16} 205°, n_D^{20} 1.4660, d^{20} 0.955. Heating the alc. with iodine and red P gave a product contg. 62% iodine and forming with $AgNO_2$ a secondary nitro compd. which with KNO_2 in alk. soln., followed by acidification, gave the blue color characteristic of secondary alcs. Addn. of Br to the alc. showed the presence of 2 double bonds, but no solid tetrabromide could be isolated. The distn. residue is a solid resinous substance. X. Air oxidation products of β-pyronene. V. M. Nikitin and G. L. Dranishnikov. *Ibid.* 213-15 (in Russian).—Air oxidation of β-pyronene gives about 30% of a product with the properties of a secondary monoat. alc. having 2 double bonds which are not conjugated, in distinction from the starting material. The mechanism of oxidation is pictured possibly as the addn. of O as a cyclic peroxide to the 5,6-double bond, hydration of this to a glycol, and loss of H_2O on distn. to give the final alc. β-Pyronene, b_{14} 51°, n_D^{20} 1.4740, d^{20} 0.8400, allowed to stand 7 months in a loosely stoppered flask, gave a viscous liquid with n_D^{20} 1.4900; distn. of this gave a series of fractions b_{10} up to 130° max., and 20% undistd. residue. Fractionation gave 30% of the *alc.*, $C_{10}H_{16}O$, b_{10} 110-15°, n_D^{20} 1.4970, d_4^{20} 0.957; heating with Ac_2O-NaOAc gave the *acetate*, a liquid with camphor odor, d^{20} 0.967, n_D^{20} 1.4945, which gives no maleic anhydride adduct even at 140°. The alc. after heating with red P and iodine, then treated with $AgNO_2$ and the product treated with alk. KNO_2, gives a blue color on acidification, showing the secondary alc. structure. The alc. takes up very close to 2 mols. Br in $(ClCH_2)_2$. XI. Dimerization of alloöcimene. V. M. Nikitin. *Ibid.* 276-80(in Russian).—Alloöcimene

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NIKITIN, V. [illegible]

Nikitin, V. [illegible], Kranishnikov, [illegible] L., "Study of the Products of Thermal [illegible] of -Pinene. A. Products of the Oxidation of -Pyronine by Air." [illegible]
(Arkhangelsk Sta, Acad Sci USSR)

SO: Journal of General Chemistry, [illegible]), [illegible], [illegible], [illegible]

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Technology

Chemistry of wood and cellulose, Moskva, Goslesbumizdat, 1951.

Monthly List of Russian Accessions, Library of Congress, December, 1951. UNCLASSIFIED

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NIKITIN, V.M.

NIKITIN, V.M.

[Chemistry of terpenes and resin acids] Khimiia terpenov i smolianykh kislot. Moskva, Goslesbumizdat, 1952. (MLRA 7:5)
(Terpenes) (Resin acids)

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The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by

SO: W-30604, 7 July 1954

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

1. NIKITIN, V. M: KRASOVSKAYA, O. N.

2. USSR (600)

4. Lignin

7. Acidification of lignin by oxygen. Bum.prom. 27 no. 11 1952

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

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~~NIT~~ NIKITIN, V.M.

3

Alkali lignin as a wood dye. O. N. Krasovskaya and V. M. Nikitin. *Derevopererabatyvayushchaya i. Lesokhim. Prom.* [illegible], 7(1954).—Wood, such as pine or birch, used in furniture manuf. is dyed with a 5–20% soln. of alkali lignin (I), which is prepd. by acidifying kraft liquor with H_2SO_4, heating to 90°, filtering, washing, adding 130–150 g. NaOH per 1000 g. pptd. I, and drying at 100–105°. J. L. K.

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NIKITIN, V. M.

The chemical composition of spruce and fir. V. M. Nikitin and A. V. Obolenskaya. *Bumazh. Prom.* 29, No. 1, 2-6(1954).—The chem. compn. of the upper (I) and lower (II) sections of a no. of spruce logs varying in diam. from 8 to 19 cm. was detd. In I the % cellulose (Kürschner) was 50.30 (49.08 to 51.92), % lignin (72% H_2SO_4) 29.54 (28.02 to 30.06), % pentosans (12% HCl) 7.84 (6.58 to 9.08), % mannan (Shorger) 3.47 (1.40 to 5.12), % galactan (Shorger) 1.25 (0.53 to 1.75), % hot H_2O-sol. exts. 2.28 (1.20 to 2.30), Et_2O-sol. exts. 1.30 (0.90 to 1.83), ash 0.43 (0.38 to 0.45), % readily hydrolyzable polysaccharides (III) (hydrolyzed by 2% H_2SO_4) 13.57 (12.18 to 15.11), and difficultly hydrolyzable polysaccharides (hydrolyzed by 80% H_2SO_4 after removal of III) 48.62 (42.21 to 53.37); comparable values for II were 51.12 (49.80 to 52.80), 28.78 (28.03 to 29.91), 8.31 (7.35 to 9.25), 2.90 (2.28 to 3.40), 0.68 (0.40 to 1.14), 2.16 (1.20 to 2.57), 1.31 (0.69 to 2.43), 0.36 (0.30 to 0.51), 13.02 (12.05 to 13.77), and 49.36 (43.51 to 53.63); comparable values for representative samples of fir were 49.14 (47.98 to 50.10), 30.30 (29.90 to 30.93), 7.79 (7.23 to 8.47), 4.19 (3.08 to 5.03), 1.09 (0.83 to 1.06), 2.16 (1.78 to 2.53), 1.49 (1.10 to 2.11), 0.36 (0.26 to 0.55), 13.18 (12.22 to 13.95), and 45.38 (43.66 to 47.34). No relation was found between chem. compn. and tree diam. or vertical position along the bole.

John Lake Keays

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NIKITIN, V. M.

Oxygen oxidation of lignin. V. M. Nikitin. *Bumash. Prom.* 29, No. 10, 7–10(1954); cf. C.A. 47, 1960a.—The absorption of O_2 by alkali lignin (I) (pptd. with H_2SO_4 from kraft liquor) in NaOH solns. varying in concn. was studied. The reaction proceeded for 1 hr. at room temp., which was then increased to 75° for 1 hr. For concns. of NaOH (g. NaOH/1000 g. I) of 100, 200, 300, 400, 500, 600, and 800, the O_2 absorbed in cc. per g. I (termed the "O_2 no.") was 10.5, 15.0, 18.0, 18.5, 18.5, 20.0, and 20.0 in 5 min., and 15.5, 23.5, 26.0, 26.0, 28.5, 29.0, and 30.5 in 1 hr., resp. and on heating to 75° over 1 hr. was 38.5, 68.0, 82.0, 94.0, 99.0, 116.0, and 128.0; the lignin recovered (in g. per g. original I) by acidification of the reaction mixt. at the end of the expts. was 0.865, 0.842, 0.764, 0.688, 0.538, 0.491, and 0.452. Solns. of I contg. 200 g. NaOH per 1000 g. I were oxidized 1 hr. at room temp. (O_2 no. = 26 in all cases) and the temp. was increased to 80°; for times of 5, 10, 20, 30, 40, 50, 60, 180, and 300 min. the O_2 nos. were 79, 79, 79, 83, 88, 89, 94, 108, and 118. To 1 g. I was added 5 cc. *N* NaOH, O_2 absorbed 1 hr. at 20°, and the reaction mixt. heated to the desired temp.; for temps. of 50°, 60°, 65°, 70°, 75°, 80°, 85°, and 90°, the O_2 nos. were, resp., 42, 50, 55, 64, 67, 77, 79, and 90, and the lignin recovered (as a percentage of the original I) 76, 74, —, 65, —, 63, —, and 60. At the const. ratio of NaOH:I of 0.8:1, and concns. of NaOH of 1, 1.3, 2.0, 2.6, 4.0, and 8.0%, the O_2 nos. for 1 hr. at 20° were, resp., 39.0, 39.0, 39.0, 40.0, 40.5, and 42.5 and for 3 hrs. at 90° were 237, 268, 265, 273, 261, and 267.

John T. ke Keays

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NIKITIN, V.M.

USSR.

Laboratory method for the determination of the cellulose content of wood. O. N. Krasovskaya and V. M. Nikitin. *Bumazh. Prom.* 30, No. 1, 14-16(1955). Wood chips are covered with a 3-4% soln. of HNO_3 contg. a few drops concd. $NaNO_3$, the mixt. is boiled 1 hr., filtered, washed with hot H_2O, covered with 3% NaOH soln., boiled 1-1.5 hrs., filtered, washed with hot H_2O, and dried. For pine, spruce, birch, alder, and aspen the percentage cellulose by this method was 49.5, 50.5, 42.3, 38.5, and 44.2; the percentage α-cellulose in the extd. cellulose was 86.0, 85.0, 87.0, 94.7, and 93.0, and the percentage lignin 1.2, 1.0, 0.8, 0.7, and 0.9, resp. In the detn. of the cellulose content of oak, 0.2-0.3% $NaNO_3$ is used in the acid digestion.

John Lake Keays

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.

The reaction of lignin with aqueous solutions of alkali. V. M. Nikitin and A. V. Obolenskaya. *Bumazh. Prom.* 31, No. 12, 2-6(1956).—A study was made of the properties of alkali lignins (I) obtained from kraft black liquor or by heating wood with NaOH solns. (0.5*N*) at 170°. Kraft black liquor was acidified and the pptd. I washed and extd. with Et_2O; the purified I contained 2.5–3% bound S and on heating with 5% HCl dissolved to the extent of 1%. On titration, I consumed 70–90 g. NaOH/kg., 30 g. by CO_2H and 40–30 g. by phenolic OH groups; this value is termed the "acid no." (II). If neutralized I in excess NaOH is heated or left standing for a prolonged period, addnl. NaOH is consumed and this amt. in g./kg. I is termed the "enol no." (III) and represents the formation of Na enolates resulting from the keto-enol structure of I. In a N atm. II and III after 1, 10, 20, 30, 40, 50, 60, and 90 days were 71 and 37, 87 and 21, 92 and 18, 97 and 12, 99 and 11, 101 and 9, 102 and 8, and 103 and 2, resp. When the I solns. were exposed to the air, II and III for 0, 2, 4, 6, 8, 10, and 16 days were 70 and 75, 115 and 50, 135 and 42, 150 and 35, 165 and 30, 170 and 28, and 180 and 23. The % of original I recovered when kept in NaOH soln. under N or in air for 0, 2, 4, 6, and 16 days was 97 and 100, 97 and 88, 97 and 83, 97 and 82, and 97 and 82. The amt. of (g.) NaOH consumed per kg. I heated in NaOH under N or refluxed were const. at 110 and 105, and for solns. exposed to air for 0, 3, 6, 12, 18, 24, 30, and 36 hrs. were 120, 150, 175, 230, 235, 310, 320, and 325. When I in

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NIKITIN, V. M. AND OBOLENSKAYA, A. V.

NaOH soln. was heated at 100° under N, it consumed 108 g./kg. within 5 min. and then remained const. When the solns. of I which had been heated at 100° with NaOH 0, 6, 12, 18, 24, 30, and 36 hrs. were acidified, 100, 92.0, 89.5, 87.5, 86, 84.7, and 84.1% were recovered from solns. exposed to the atm.; 100, 95.5, 94.8, 94.0, 93.8, 93.7, and 93.7%, resp., from solns. heated under N, and 100, 96.4, 96.0, 95.8, 95.7, 95.6, and 95.5% from solns. heated under reflux. Spruce was pulped in the lab. (4 hrs. at 175°, liquor: wood ratio 10:1) with cooking liquors contg. 10, 20, 30, 40, 50, 60, 80, 100, 150, 200, and 300 g. NaOH/l., and the black liquor acidified to give 0, 9, 16, 20, 22, 22.5, 22.0, 21.5, 20, 19.5, and 18.0% I (based on bone-dry wood). I was heated in 4% NaOH 0, 3, 9, 15, 21, and 33 hrs. at 175°, and the solns. were acidified giving 100, 90, 81, 79, 77, and 76% I. I (5 g.) was treated with 200 cc. NaOH varying in compn., and then heated 8 hrs. at 175°; for cooking liquors of 0, 500, 1000, 2000, and 3000 g. NaOH/kg. I the g. NaOH consumed were —, 120, 150, 210, and 265, and the lignin recovered upon acidification of the solns. 100, 82, 75, 67, and 63%, resp. In a series of kraft cooks the pulp yields were 100, 70, 60, 46, 39 and 10% for a per cent NaOH (based on bone-dry wood) (IV) of 0, 16, 20, 40, 60, and 120; the lignin content of the pulp in % was 20, 13, 3, 2, 2, 4.5, and 6.3 for a IV of 30, 40, 60, 80, 100, 200, and 300%; the lignin in the pulp

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NIKITIN, V. M. AND OBOLENSKAYA, A. V.

was 23, 16, 5.5, 2.0, 1.0, 0.5, and 0.2% for IV values of 15, 20, 40, 60, 80, 100, and 300%. I was heated in solns. contg. 3 (original I), 2, 4, 6, and 8% NaOH; the yield of I recovered was 100, 80.4, 80.1, 77.0, and 74.9%, the % C and H of the recovered I 66.60 and 5.79, 66.96 and 5.81, 67.92 and 5.94, 68.23 and 5.60, and 67.23 and 5.80; the % MeO 12.65, 12.56, 12.72, 12.66, and 12.41, and the g. NaOH consumed per kg. I —, 96, 100, 112, and 108. Finally, the same sample of I was heated in 4% NaOH for 4, 8, 16, 24, and 32 hrs.; the I recovered was 88.2, 80.1, 79.4, 78.8, and 77.1%; the % C 67.00, 67.02, 67.67, 68.00, and 67.58; the % H 6.07, 5.94, 5.77, 5.74, and 5.71; the % MeO 12.4, 12.7, 12.7, 12.2 and 12.2; and the g. NaOH consumed per kg. I 104, 100, 112, 104, and 108. John Lake Keays

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.; AKIM, G.L.

Applying the oxygen-alkaline method for delignifying and refining unbleached cellulose. Report No.2. Trudy LTA no.80 pt.2:77-90 '58. (MIRA 13:4)
(Cellulose)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.; OBOLENSKAYA, A.V.

Oxidation of lignin by oxygen in an alkaline medium. Trudy LTA no.80 pt.2:65-75 '58. (MIRA 13:4)
(Lignin) (Oxidation)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, Viktor Mikhaylovich; SHARKOV, V.I., red.; SARMATSKAYA, G.I., red. izd-va; PARAKHINA, N.L., tekhn. red.

[Wood and cellulose chemistry] Khimiia drevesiny i tselliulozy. Izd.2., perer. Moskva, Goslesbumizdat, 1960. 468 p. (MIRA 14:6)

(Wood—Chemistry) (Cellulose)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.; AKIM, G.L.

Bleaching and refining of cellulose pulp by oxygen and alkali. Bum.prom. 35 no.12:5-7 D '60. (MIRA 13:12)

1. Leningradskaya ordena Lenina lesotekhnicheskaya akademiya im. S.M.Kirova.

(Woopulp)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, Viktor Mikhaylovich, prof., doktor khim. nauk; OBOLENSKAYA, A.V., red.; VDOVINA, V.M., tekhn. red.

[Lignin] Lignin. Moskva, Goslesbumizdat, 1961. 314 p. (MIRA 15:3)

(Lignin)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.; SKACHKOV, V.M.

Quantitative determination of epichlorohydrin. Zav.lab. 29 no.11: 1309 '63. (MIRA 16:12)

1. Leningradskaya lesotekhnicheskaya akademiya im. S.M.Kirova.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.; OBOLENSKAYA, A.V.; SKACHKOV, V.M.; IVANENKO, A.D.

Settling of alkali lignin with carbon dioxide under pressure.
Bum. prom. 38 no.11:14-15 N '63. (MIRA 17:1)

1. Leningradskaya lesotekhnicheskaya akademiya im. Kirova.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

OBOLENSKAYA, Artimida Valentinovna, dots.; SHCHEGOLEV, Viktor Petrovich, st. nauchn. sotr.; AKIM, Garri L'vovich, dots.; AKIM, Eduard L'vovich, kand. tekhn. nauk; KOSSOVICH, Nadezhda L'vovna, dots.; YEMEL'YANOVA, Iraida Zakharovna, kand. tekhn. nauk; KOSAYA, G.S., kand. tekhn. nauk, retsenzent; NIKITIN, V.M., prof.red.

[Practical laboratory work on wood chemistry and cellulose] Prakticheskie raboty po khimii drevesiny i tselliulozy. Moskva, Lesnaia promyshlennost', 1965. 411 p. (MIRA 18:7)

1. Kafedra khimii drevesiny i tsellyulozy Lesotekhnicheskoy akademii im. S.M.Kirova (for Obolenskaya, Shchegolev, Akim, G.L., Akim, E.L.). 2. Kafedra anatomii i fiziologii rasteniy Lesotekhnicheskoy akademii im. S.M. Kirova (for Kossovich). 3. Zaveduyushchaya laboratoriyey fiziko-khimicheskikh issledovaniy Gosudarstvennogo nauchno-issledovatel'skogo instituta gidroliznoy i sul'fatno-spirtovoy promyshlennosti, Leningrad (for Yemel'yanova).

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M., kand. med. nauk, podpolkovnik meditsinskoy sluzhby

Immunofluorescent paper disks for rapid detection of pathogenic microbes. Voen.-med.zhur. no.11:50-53 '64. (MIRA 18:5)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

SHOSTAKOVSKIY, M.F.; ATAVIN, A.S.; NIKITIN, V.M.; TROFIMOV, B.A.; KEYKO, V.V.; LAVROV, V.I.

Synthesis and some transformations of vinyl silyl ethers of glycols. Izv. AN SSSR. Ser. khim. no.11:2049-2051 '65. (MIRA 18 11)

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.

[redacted] The question of individual choice of the method of anesthesia and dose of the anesthetic [with summary in English]. Khirurgiia 33 no.10:90-94 O '57. (MIRA 11:2)

1. Iz kafedry fakul'tetskoy khirurgii Yaroslavskogo meditsinskogo instituta (nauchnyy rukovoditel' - prof. A.A.Busalov)
(ANESTHESIA
selection & optimal dosage (Rus))

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKI'LI, V.M.; ANDRUSYEVA, M.N.

Use of peridural blocks in treating peptic ulcer; abstract. Khirurgiia 34 no.12:100 D '58. (MIRA 12:1)

1. Iz kafedr fakul'tetskoy khirurgii i gospital'noy terapii Yaroslavskogo meditsinskogo instituta.
(PEPTIC ULCER) (NOVOCAINE)

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, [illegible] M.: [illegible] Med Sci (Diss) -- "[illegible] for [illegible] tion of the lower leg [illegible] Obliterans". Moscow, [illegible] Moscow State Med Inst [illegible] (KL, [illegible]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

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NIKITIN, V.M. (Yaroslavl', ul. Grazhdanskaya, d.17-a, kv. 22)

Kymographic data on the hymodynamics and respiration during operations on the stomach, esophagus, lungs and heart using different anesthetic methods. Grud. khir. 2 no.5:105-108 S-O '60. (MIRA 16:5)

1. Iz kafedra gospital'noy khirurgii (zav. - prof. A.A.Busalov) i kafedry fakul'tetskoy khirurgii (zav. - prof. V.P.Mateshuk) Yaroslavskogo meditsinskogo instituta.
(KYMOGRAPH) (ANESTHETICS) (SURGERY, OPERATIVE)

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

MATESHUK, V.P.; NIKITIN, V.M.; SHUGAYEV, B.B.

Data of kymographic recording of arterial pressure, pulse and respiration during surgery on the stomach with the use of various types of anesthesia. Eksper. khir. i anest. 8 no.4:69-72 Jl-Ag '63. (MIRA 17:5)

1. Kafedra fakul'tetskoy khirurgii (zaveduyushchiy - prof. V.P. Mateshuk) Yaroslavskogo meditsinskogo instituta.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M. [illegible]

Cardiovascular and [illegible] thoracic cavity. [illegible]

1. Kafedra fakul'tetskoy khirurgii [illegible] Yaroslavskiy [illegible]

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M., prof; KIM KHA DIN [Kim Ha-chin], kand.tekhn.nauk (Koreyskaya Narodno-Demokraticheskaya Respublika)

Composition of rice straw from North Korea. Bum. prom. 33 no.5:15-16 My '58. (MIRA 11:6)

1. Lesotekhnicheskaya akademiya im. S.M. Kirova (for Nikitin). (Rice)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M., kand. tekhn. nauk; BRUSIN, M.A., kand. tekhn. nauk

Investigating the effect of blowing through a hammer mill on the milling process. Izv. vys. ucheb. zav.; mashinostr. no.5:112-116 '65. (MIRA 18:11)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M.

Quantitative distribution of benthic macrofauna in the Black Sea off the Caucasian coast. Dokl. AN SSSR 143 no.4:968-971 Ap '62. (MIRA 15:3)

1. Institut okeanologii Akademii nauk SSSR. Predstavleno akademikom Ye.N.Pavlovskim.
(Black Sea--Benthos)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, V.M., inzh.

Research concerning an efficient aerodynamic system and design of a high-speed impact mill. Teploenergetika 9 no.10:13-17 O '62. (MIRA 15:9)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche.
(Coal, Pulverized)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

VAYNSHTEYN, A.S.; NIKITIN, V.M.

Tabular petroleum heater with a fluidized bed of burning, powdered coke. Trudy MINKHiGP no.28:151-156 '60. (MIRA 14:4)
(Heat exchangers) (Fluidization)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

POPKOV, Vasiliy Ivanovich, kand.tekhn.nauk; SERGIYEV, Vladimir Poliyenovich; VORONIN, G.M., retsenzent; NIKITIN, V.M., retsenzent; GABOVA, D.M., red.; KNAKNIN, M.T., tekhn.red.

[Work organization at garment factories] Organizatsiia proizvodstva na shveinom predpriiatii. Izd.2., perer. i dop. Moskva, Izd-vo nauchno-tekhn.lit-ry, 1960. 202 p. (MIRA 14:6)

(Clothing industry)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

MARINETS, T.K.; NIKITIN, V.M.

Automatic switch for multipoint fatigue testing machines. Zav.lab. 29 no.12:1501 '63. (MIRA 17:1)

1. Leningradskiy politekhnicheskiy institut.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

NIKITIN, Vladimir Nikolayevich; SOROKO, Ya.I., red.; RAKITIN, I.T., tekhn. red.

[For active longevity] Za aktivnoe dolgoletia. Moskva, Izd-vo "Znanie," 1964. 38 p. (Novoe v zhizni, nauke, tekhnike. VIII Seriia: Biologiia i meditsina, no.6)

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137010020-6

MARINETS, T.K.; NIKITIN, V.M.

Electromagnetic reversive switch for TSh and TSh-2 durometers.
Zav.lab. 30 no.3:372-373 '64. (MIRA 17:4)

1. Leningradskiy politekhnicheskiy institut.

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NIKITIN, V.M., inzhener.

Refrigerator car for the transportation of fruit. Vest. mash. 33 no.12:28 D '53. (MLRA 6:12)
(Railroads--Freight-cars) (Refrigerator cars)

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[illegible]

Effect of [illegible]
of the [illegible]
mills. Izv.vys.[illegible]

1. [illegible]
Baumann.

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D[illegible] D305

26.2120

AUTHORS: Zaryankin, A.Ye., Candidate of Technical Sciences, Zatsepin, M.F., and Nikitin, V.N., Engineers

TITLE: An experimental investigation of the radial and radial-axle stages

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Energetika, no. 8, 1961, 60-66

TEXT: The experiments were carried out with an experimental turbine type МЭИ(MEI) shown in Fig. 1. The air was supplied to the turbine from a blower (1 and 3 atmospheres) and a temperature of 200°C, through the meter nozzle 14. The power developed by the turbine was consumed by the three-stage hydro-brake. The demand for the air was calculated from

$$G = A\sqrt{\Delta p_{\text{[illegible]}}\frac{p_{\text{[illegible]}}}{T}}$$

Card 1/[illegible]

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where Δp_0 is the pressure drop on the nozzle, p_0 - the pressure before the nozzle, T_0 - the temperature. The efficiency and magnitude of the reaction was calculated from the known expressions

$$\eta_{01} = \frac{M_{[illegible]}}{[illegible] \cdot T_0 \left[\left(\frac{p_1}{p_0} \right)^{0,[illegible]} \right]}$$

and

$$\rho = \frac{\left(\frac{p_1}{p_0} \right)^{0,[illegible]} \left(\frac{p_1}{p_0} \right)^{[illegible]}}{\left(\frac{p_2}{p_0} \right)^{[illegible]}}$$

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28572
S/143/61/000/008/003/005
D203/D305

An experimental investigation ...

Four stages were investigated in the experimental turbine, differing only by the rotors working with the same nozzle apparatus. The profile MEI, Ts-2r was taken as a basis, having an angle $\alpha_{1\,ef}$ = 1[illegible]° with the relative pitch $\frac{t}{b}$ = 0.64. The rotors are shown. The first three rotors had the same peripheries and the radial blades at the inlet had the same outlet diameter. The fourth wheel was of radial type only and the curved blades with the outlet edges were of diameter d_2 = 78 mm. The number of blades were 16 on the first wheel, 12 on the second and third wheel and 18 on the fourth wheel. The edges of the first wheel had a variable angle β_2 equal to 56° at the root and 1° at the top. The second wheel had the curved outlet edges ($\beta_2 1$ = 90°). The internal efficiency $\frac{u_1}{C_0}$ is also shown graphically. The best result was obtained with the wheel No. 1 which showed for $\frac{u_1}{C_0}$ = 0.55 to 0.65 an efficiency of

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80-83%, and with the improved helix even 84%. The reaction for wheel No. 1 varied considerably with the variation of $\frac{u}{c_0}$ and was found to depend on the method of sealing the rotor. A graph shows that the lack of sealing on the rear side of the working wheel diminishes the reaction by 5%, and with an increase of $\frac{1}{c_0}$, there is a considerable increase of reaction. The investigation of the radial stage No. 4 showed that its efficiency was somewhat lower than that of the radial axle stage No. 1, although they had the same ratio $\frac{d_2}{d_1}$, and zero curvature at the outlet ($C_{2n} = 0$). The losses at the outlet velocity in a radial stage were 1.5 times greater than those in a radial axle stage. The dependence of the reaction magnitude on the ratio $\frac{u_1}{C_0}$ for wheel No. 4 was found to be of different quality. For a known value of reaction, the output and the coefficient of velocity of a radial turbine, the mean

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angle α_1 of the [illegible] ing expressions,

$$C_{m1} = \frac{G}{2\pi r_1 l \gamma_1} \qquad (4)$$

$$C_1 = 1.5\rho\sqrt{(1-\rho)H_0} \qquad (5)$$

where l - the height of the nozzle, r_1 the radius of the outlet edges of the [illegible]

$$\sin\alpha_1 = \frac{m^1}{c_1} = \frac{G}{575\, r_1 l_1 \gamma_1 \rho \sqrt{(1-\rho)H_0}} \qquad (6)$$

Card 5/[illegible]

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is then derived. Denoting γ_1 in terms of the temperature and pressure

$$\sin\alpha_1 = 0.5\,\frac{GT_0\left[1+3.5\varphi^2(1-\rho)H_0\right]}{r_{1+1}\varphi p_1\sqrt{(1-\rho)H_0}}$$

is obtained. It follows from Eq. (7) that the outlet angle depends on the losses in the nozzle apparatus and increases with the increase of φ. However, the mean angle on the axle type turbines differs from the local angles of the flow outlet because of the greater irregularity of the flow. In the radial turbines, this difference is insignificant and the angle α could be taken as an aerodynamic angle of the flow outlet from the nozzle lattice. The gap flow in the direction of the rotor moves as a logarithmic spiral with an almost constant angle α_1. There is a further acceleration of the flow, whose magnitude depends on the radius of the

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nozzle installation and on the relative size of the radial gap. The size of this gap depends on the profile type and on the relative height of the nozzle apparatus $l_1 = \frac{l_1}{d_1}$. The increase of the flow width of the gap is accompanied by an increase in losses, caused by internal friction and the friction against the face wall of the ring gap. With an increase of the gap, the role of temperature drop in the nozzle apparatus decreases, whereas the temperature drop in the ring gap increases. It follows that with good aerodynamic profiles with small relative heights $l_1 < 0.1$, a sharp decrease of the optimal gap takes place. The experiments resulted in the following conclusions: 1) The investigated curvatures of the outlet blade-edges proved their useful justification; 2) A comparison of the radial axle and radial stages showed that with a good profile, their efficiency could be of the same oder; 3) The theoretical and experimental investigation of the influence of the radial gap showed that its increase under the specified conditions could be fully justified. There are 6 figures and

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ASSOCIATION: Moskovskiy ordena Lenina energeticheskiy institut (Moscow Order of Lenin Institute of Energetics)

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AUTHOR: Gulyayev, A. P.; Nikitin, V. N.

TITLE: Comparison of various methods for determination of steel resistance to brittle fracture

SOURCE: Zavodskaya laboratoriya, v. 31, no. 1, 1965, 88-94

TOPIC TAGS: steel, low alloy steel, steel brittle failure, brittle failure susceptibility/18G2AF steel

ABSTRACT: In an attempt to find a reliable method and criterion for determining the susceptibility of steels to brittle fracture, specimens of 18G2AF low alloy steel (0.19% C, 1.72% Mn, 0.38% Si, 0.17% V) have been tested in following conditions: G—hot rolled, N—annealed at 900C and air cooled, P—annealed at 1200C and air cooled, and U—water quenched from 900C and tempered at 680C for 1 hr. The structure of specimens differed depending upon heat treatment but strength and ductility were of the same order: tensile strength 69—63 kg/mm^2, elongation 15—18%, and reduction of area 37—42%. Notched and unnotched specimens in various shapes and

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