STEFANOV, S.B.; NIKITIN, D.I.

Submicroscopic bodies in soil suspensions. Mikrobiologiia 34 no.2: 313-317 Mr-Ap '65. (MIRA 18:6)

1. Laboratoriya elektronnoy mikroskopii AN SSSR i Institut mikrobiologii AN SSSR.

MISHUSTIN, Ye.N.; VOSTROV, I.S.; NIKITIN, D.I.; YEROFEYEV, N.S.

Role of aerobiosis in the formation of humic compounds.
Mikrobiologiia 34 no.3:497-501 My-Je '65. (MIRA 18:11)

1. Institut mikrobiologii AN SSSR.

NIKITIN, D.M.

Effect of delignification of vegetable materials on the decomposition of xylan. Uch. zap. Smol. gos. ped. inst. No.10:150-157 '62. (MIRA 17:1)

NIKITIN, D.M.

Chemical compounds of inert gases. Khim. v shkole 18 no.5:75-76 S-O '63. (MIRA 17:1)

1. Pedagogicheskiy institut, Smolensk.

NIKOLAYEV, L.A., kand.tekhn.nauk; NIKITIN, D.M., inzh.

Heating system of diesel engines with air cooling. Trakt. i sel'khozmash. 30 no.10:8-11 O '60. (MIRA 13:8)
(Diesel engines--Cold weather operations)

NESTEROV, V.G.; NIKITIN, D.N., nauchn. red.; IVANOV, Ye.S., red.

[Bioecological system of measures for increasing the productivity of forests] Bioekologicheskaia sistema povysheniia produktivnosti lesov. Moskva, TSentr. nauchno-issl. in-t informatsii i tekhniko-ekon. issledovanii po lesnoi, tselliulozno-bumazhnoi, derevoobrabatyvaiushchei promyshl. i lesnomu khoziaistvu, 1964. 37 p. (MIRA 17:9)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Nesterov).

BLAGOVESHCHENSKAYA, N.S.; DUBOVOY, A.B.; NIKITIN, D.P.; PETROV, P.S., kand.ekon. nauk; MAKAROVA, E.A., red.

[Trade-union mass work to encourage production] Proizvodstvenno-massovaia rabota professional'nykh soiuzov; uchebnoe posobie. Moskva, Profizdat, 1965. 222 p. (MIRA 18:7)

1. Moscow. Vysshaya shkola professional'nogo dvizheniya. 2. Zaveduyushchiy kafedroy profsoyuznogo stroitel'stva Moskovskoy vysshey shkoly professional'nogo dvizheniya (for Petrov).

NIKITIN, D. V.

Botkin's Disease (Epidemic Hepatitis) From the Records of the Clinic for Infectious Diseases AGMI [Arkhangel'sk State Medical Institute]. Tezisy Dokladov 17-y Nauchnoy Sessii Arkhangel'skog Gosudarstvennogo Meditsinskogo Instituta (Thesis of Reports Presented at the 17th Scientific Session of the Arkhangel'sk State Medical Institute), Arkhangel'sk, 1952, p 50.

VIKITIN, D. V.

36248

Ekonomnee raskhodovat s---'ye na ekstraktokykh zavodakh. Legkaya prom-st', 1949, No. 10, s. 5

SO: Letoois' Zhurnal'nykh Statey, No. 49, 1949

NIKITIN, D.V.

Speed up the development of the tanning extract industry. Leg. prom. 16 no.4:12 Ap '56. (MLRA 9:8)

1. Nachal'nik Glavkoshsyr'ye Ministerstva legkoy promyshlennosti SSSR.

(Tanning)

NIKITIN, D.V.

Production of tanning liquors. Leg.prom. 17 no.11:67-69 N '57.
(MIRA 10:12)
(Tanning materials)

NIKITIN, D.V.

Development of the tanning material industry. Leg. prom. 13 no.7: 13-15 Jl '58. (MIRA 11:9)
(Tanning materials)

NIKITIN, D.V.

Expand the production of fur goods. Kozh.-obuv.prom. 3 no.2:10-11 F '61. (MIRA 14:4)

1. Zamestitel' nachal'nika Soyuzglavlegpromsyr'ye.
(Fur industry)

NIKITIN, D.V.

Resources of raw materials for the leather and fur industries for the current seven-year plan period. Kozh.-obuv.prom. 3 no.11:19-21 N '61. (MIRA 15:1)

(Hides and skins)

VENIKOV, Valentin Andreyevich; MIKITIN, D.V., red.; STROYEV, V.A., red.

[Transient electromechanical processes in electrical systems] Perekhodnye elektromekhanicheskie protsessy v elektricheskikh sistemakh. Moskva, Izd-vo "Energiia," 1964. 377 p. (MIRA 17:8)

NIKITIN, D.V.

Problem of the automation of [illegible] network analyzers. [illegible]
MEI no.54:189-194 '64.

NIKITIN, D.V.

Prospects for the providing of the light industry with leather raw materials during 1965. Kozh.-obuv.prom. 7 no.[illegible] Mr '65. (MIRA 18:10)

1. Zamestitel' nachal'nika Glavnogo upravleniya po mezhrespublikanskim postavkam syr'ya dlya legkoy promyshlennosti Soveta narodnogo khozyaystva SSSR.

NIKITIN, F., tekhnik-mekhanik

Unit for gas soldering. Avt. transp. 40 no.1:52 Ja '62. (MIRA 15:1)

(Solder and soldering)

1. NIKITIN, F.A.

2. USSR (600)

4. Ural Mountain Region-Birch

7. Peculiarities of growth of pure-strain young birch in the Central Urals, Les. Khoz. 5 no.12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

NIKITIN, F. A.

"Formation of Mixed Pine-Birch Undergrowth in the Central Ural." Cand Agr Sci, Leningrad Forestry Engineering Acad imeni S. M. Kirov, Leningrad, 1953. (RZhBiol, No 5, Nov 54)

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SO: Sum. No.521, 2 Jun 55

NIKITIN, F. N.

(5)

Effect of physical load on elimination of bismuth. F. N. Nikitin (Leningrad Sanit.-Hyg. Inst.). *Vestnik Venerol. i Dermatol.* 1954, No. 1, 60.—Under the conditions of phys. work the rate of elimination of Bi (administered as Bismoverol with novarsenol in syphilis therapy) is increased, in comparison with that found in patients who did no phys. labor.

G. M. Kosolapoff

NIKITIN, F.N.

Extinction of cutaneogalvanic response to weak tactile stimulation in certain skin diseases. Vest. ven. i derm. no.5:3-7 S-O '54. (MLRA 7:11)

1. Iz kafedry koshnykh i venericheskikh bolezney (zav. chlen-korrespondent Akademii meditsinskikh nauk SSSR P.V.Koshevnikov) Leningradskogo GIDUV.

(REFLEX, PSYCHOGALVANIC,
extinction of cutaneo-galvanic reactions to weak tactile stimulation in skin dis.)

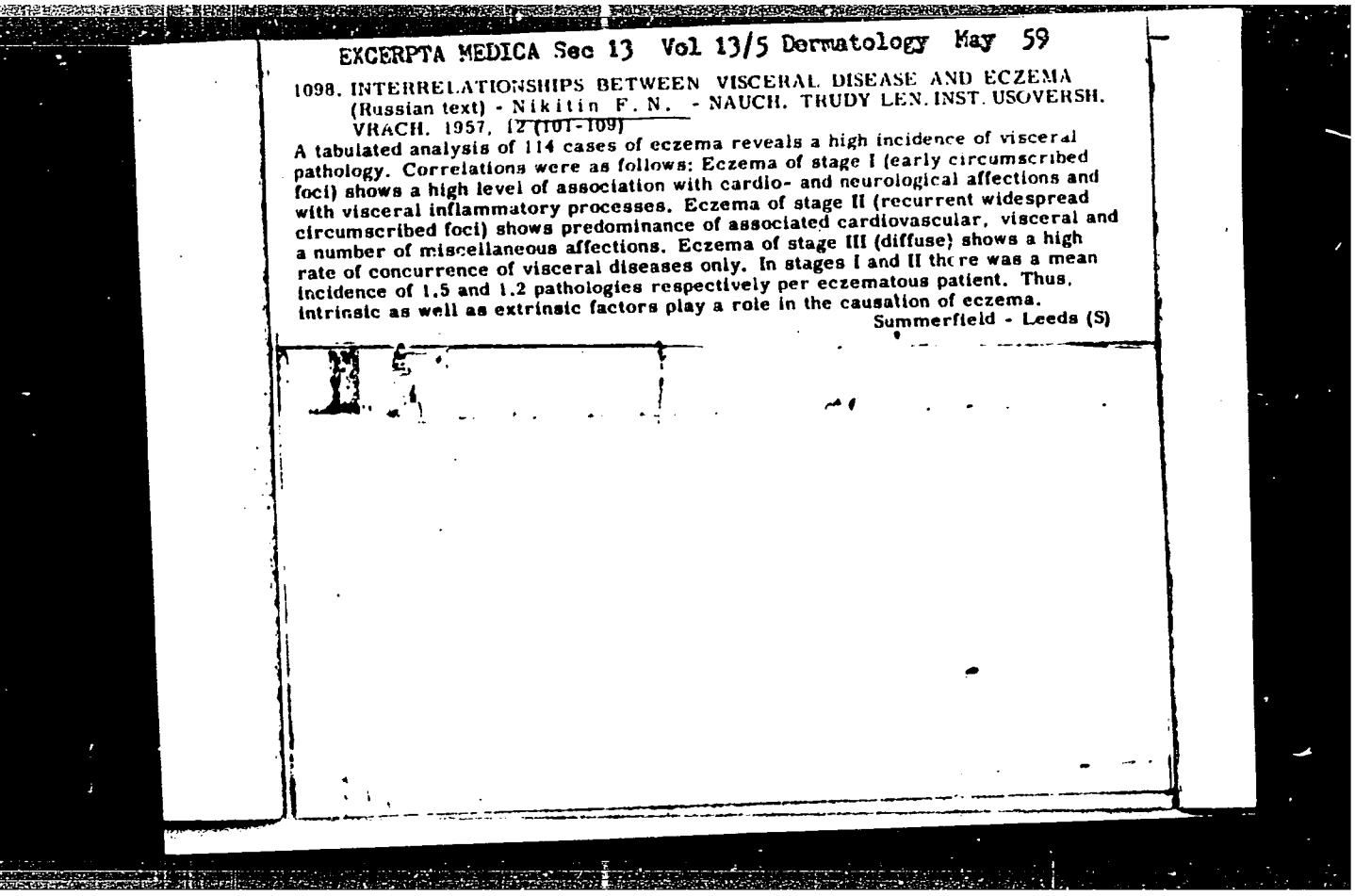
(SKIN, diseases,
extinction of cutaneo-galvanic reactions to weak tactile stimulation in skin dis.)

NIKITIN F.N

STATE ORDER OF LE[illegible] I[illegible] FOR T[illegible] S. M. KIROV. REP[illegible]

NIKITIN, F. N.: "Dermal-galvanic reactions in eczema patients." State Order of Lenin Inst for the Advanced Training of Physicians imeni S. M. Kirov. Republic Sciences Dermatological-Venereological Inst. Chair of Dermatological and Venereal Diseases. Moscow, 1956.

So: Knizhnaya Letopis', No 36, 1956, Moscow.



EXCERPTA MEDICA Sec 13 Vol 13/5 Dermatology May 59

1098. INTERRELATIONSHIPS BETWEEN VISCERAL DISEASE AND ECZEMA (Russian text) - Nikitin F. N. - NAUCH. TRUDY LEN. INST. USOVERSH. VRACH. 1957, [2 (101-109)]

A tabulated analysis of 114 cases of eczema reveals a high incidence of visceral pathology. Correlations were as follows: Eczema of stage I (early circumscribed foci) shows a high level of association with cardio- and neurological affections and with visceral inflammatory processes. Eczema of stage II (recurrent widespread circumscribed foci) shows predominance of associated cardiovascular, visceral and a number of miscellaneous affections. Eczema of stage III (diffuse) shows a high rate of concurrence of visceral diseases only. In stages I and II there was a mean incidence of 1.5 and 1.2 pathologies respectively per eczematous patient. Thus, intrinsic as well as extrinsic factors play a role in the causation of eczema.

Summerfield - Leeds (S)

NIKITIN, F.N., kand.med.nauk

Urticarial eruptions in connection with physiotherapeutic procedures in the area of the solar plexus. Vest.derm. i ven. no.11:21-24 '61. (MIRA 14:11)

1. Iz kafedry kozhnykh bolezney (zav. - chlen-korrespondent AMN SSSR prof. P.V. Kozhevnikov) Leningradskogo instituta dlya usovershenstvovaniya vrachey (dir. - dotsent A.Ye. Kiselev).
(URTICARIA) (NERVOUS SYSTEM, SYMPATHETIC)
(SOLAR PLEXUS)

KIKIN, F. V.

34080. Podnyatne produktivnosti krolikovodstva. Karakulevodstvo i zverovodstvo, 1949, No. 5, s. [illegible]

SO: KLIZH AYA, LETO IS', Vol. 7, 1955

NIKITIN, F.V.

[Rabbit breeding] Krolikovodstvo. Kazan', Tatarskoe knizhnoe izd-vo, 1958. 149 p. (MIRA 11:11)

(Rabbits)

NIKITIN, F.V., laureat Stalinskoy premii

Derivation of new breeds. IUn. nat. no.9:4-6 S '58. (MIRA 11:10)
(Rabbit breeding)

NIKITIN, Faust Vasil'yevich, laureat Stalinskoy premii, zootekhnik; SMIRNOVA, I.I., red.; TROFIMOVA, A.S., tekhn. red.

[Rabbit raising] Krolikovodstvo; posobie.... Izd.2., dop. Kazan', Tatarskoe knizhnoe izd-vo, 1959. 182 p. (MIRA 14:9)
(Rabbits)

NIKITIN, F.V.

Rapid determination of the tin and antimony content of ores and of the products of their concentration. Zav. lab. 31 no.8:966-968 '65. (MIRA 18:9)

PLAKSIN, I.N.; NIKITIN, F.V., inzh.

Design of gamma emitters for X-ray radiometric analysis.
Izv.vys.ucheb.zav.; gor.zhur. 8 no.11:162-166 '65.
(MIRA 19.1)

1. TSentral'nyy nauchno-issledovatel'skiy institut olova.
Rekomendovana seminarom otdela obogashcheniya poleznykh
iskopayemykh Instituta gornogo dela imeni Skochinskogo.
Submitted October 26, 1964.

PLAKSIN, I.N.; NIKITIN, F.V.

Calculation of the activity of gamma-emitters for [illegible] absorption analysis. Zav. lab. 31 no. 12:1461-1465 '65. (MIRA 19:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut olovyannoy promyshlennosti.

NIKITIN, G.

Research institutes suggest.... Okhr. truda i sots. strakh. 7 no.2: 37-39 F '64. (MIRA 17:2)

1. Nachal'nik otdela organizatsii proizvodstva Nauchno-issledovatel'skogo instituta tekhnologii traktornogo i sel'skokhozyaystvennogo mashinostroyeniya.

NIKITIN,G., inzhener (g. Ul'yanovsk); MORGUNOV,N., inzhener (g. Ul'yanovsk)

Helicopters. Grazhd. av. 12 no.4:25-29 Ap '55. (MIRA 8:9)
(Helicopters)

NIKITIN, G.

84-12-38/49

AUTHOR: Nikitin, G., Senior Instructor, Kiyev Institute of the GVF (Kiyev)

TITLE: A New Book on Helicopter Flying (Novaya kniga o pilotirovanii vertoleta)

PERIODICAL: Grazhdanskaya aviatsiya, 1957, Nr 12 p 30 (USSR)

ABSTRACT: The article is a review of the book by G. A. Tinyakov, Helicopter Piloting (Pilotirovaniye vertoleta), published by the Voyenizdat, Moscow, 1957. The author welcomes the book as filling a gap in aviation literature. The only existing publication on the subject, a description of the Mi-4 helicopter issued by the Redizdat of the GVF, is considered a "failure". The reviewer commends the book's comprehensiveness, but objects to the lack of basic theoretical considerations, and to the inadequate treatment of the problems of stability and control.

AVAILABLE: Library of Congress

Card 1/1

NIKITIN, G.A.

Studying the conditions of the fermentation of molasses alcohol distiller's waste with methane-producing bacteria for the purpose of producing vitamin B_{12}. Vit. res. i ikh isp. no.6:56-66 '63. (MIRA 17:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut spirtovoy promyshlennosti, Kiyev.

NIKITIN, G.A.

Apparatus for balanced compensation of reactive power due to unbalanced load. Prom.energ. 11 no.8:22-23 Ag '56. (MLRA 9:11)
(Electric engineering)

NIKITIN, Georgiy Antonovich; GREKOV, Aleksandr Petrovich; USPENSKIY, N.M., red.; MUKHINA, Ye.S., tekhn. red.

[They are always in formation] Oni vsegda v stroiu. Moskva, Izd-vo DOSAAF, 1961. 114 p. (MIRA 15:3)
(Retired military personnel—Employment)

NIKITIN, G. A.

Nikitin, G. A.

"Vitebsk Oblast (Economic-Geographical Characteristics)." Latvian State U. Riga, 1955 (Dissertation for the degree of Candidate in Geographical Sciences)

SO: Knizhnaya letopis' No. 27, 2 July 1955

NIKITIN, Grigoriy Alekseyevich [Nikitsin, G.]; FEL'GIN, M., red.; SLAVYANIN, I., tekhn.red.

[Vitebsk] Vitsebsk. Minsk, Dziarzhaunae vyd-va BSSR. Red. satsyial'na-ekan.lit-ry, 1959. 108 p. (MIRA 13:2)
(Vitebsk)

ANDRUSHCHENKO, A.G., nauchnyy sotrudnik; BEREZKINA, O.A., nauchnyy sotrudnik; KUZ'MINA, V.I., nauchnyy sotrudnik; OZEROVA, G.M., nauchnyy sotrudnik; PAL'CHIKOVA, A.P., nauchnyy sotrudnik; TSARIN, A.P., nauchnyy sotrudnik; TIMOFEYEV, L.N., nauchnyy sotrudnik; NIKITIN, G.A., krayeved; CHEREPANOV, B., red.; ISUPOVA, N., tekhn.red.

[Alupka; a sketch for excursionists] Alupka; ekskursionnyi ocherk. Simferopol', Krymizdat, 1961. 84 p. (MIRA 14:7)

1. Alupkinskiy dvorets-muzey (for all except Cherepanov, Isupova).
(Alupka—Description)

NIKITIN, G., kand.geograf.nauk

White Russia is being given an access to the sea. Rech. transp. 21 no.9:31-32 S '62. (MIRA 15:9)
(White Russia—Intracoastal waterways)

MATUSEVICH, M.G., kand. ekon. nauk; MILOVANOV, V.A., kand. ist. nauk; NIKITIN, G.A., kand. geogr. nauk; GURVICH, G.Ts. kand. ekon.nauk; GOLUBEV, B.P., nauchn. sotr.; KRUTILINA, T.N., nauchn. sotr.; MIKHNEVICH, L.M., nauchn. sotr.; GIORGIDZE, Z.I., kand. ekon. nauk; RAVUN, I.I., kand. ekon. nauk; OKUN', M.V., kand. ekon.nauk; KOVALEVSKIY, G.T., kand. ekonom. nauk; KHROMOV, P.A., doktor ekonom. nauk, nauchnyy red.; LEONENKO, I., red. izd-va; ATLAS, A., tekhn. red.

[Economy of White Russia during the period of imperialism, 1900 - 1917] Ekonomika Belorussii v epokhu imperializma, 1900-1917. Minsk, Izd-vo AN BSSR, 1963. 420 p. (MIRA 17:3)

1. Akademiya navuk BSSR, Minsk, Instytut ekonomiki.
2. Institut ekonomiki AN BSSR (for all except Leonenko, Atlas).

NIKITIN, G.O. [Nikitin, H.O.]

Phylogenesis of anaerobic cellulose bacteria. Part 1: Fermentation of cellulose and potato mash by thermophilic anaerobic cellulose bacteria. Visnyk Kyiv.un. no.2:107-112 '59. (MIRA 16:4)
(BACTERIA, CELLULOSE-DECOMPOSING)
(FERMENTATION)

NIKITIN, G. A., Cand Biol Sci -- (diss) "Philogeny of anaerobic cellulosic bacteria." Kiev, 1960. 21 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Kiev Order of Lenin State Univ im T. G. Shevchenko); 150 copies; price not given; (KL, 22-60, 134)

ROTMISTROV, M.N. [Rotmistrov, M.M.]; NIKITIN, G.O. [Nikitin, H.O.]

Studying the respiration of anaerbic cellulose bacteria. Visnyk Kyiv.un. no.3. Ser.biol. no.1:89-91 '60. (MIRA 16:4)
(BACTERIA, CELLULOSE-DECOMPOSING)
(RESPIRATION)

NIKITIN, G.O. [Nikitin, H.O.]

Utilization of nitrogen sources by anaerobic cellulose bacteria. Visnyk Kyiv.un. no.2. Ser.biol. no.1:92-96 '60. (MIRA 16:4)
(BACTERIA, CELLULOSE-DECOMPOSING) (NITROGEN)

NIKITIN, G.A. [Nikitin, H.O.]

Phylogeny of anaerobic cellulose bacteria. Report No. 2: Comparative study of cultural and morphological properties of anaerobic cellulose and butyric acid bacteria. Mikrobiol. zhur. 22 no. 1:27-33 '60. (MIRA 13:10)

1. Kiyevskiy gosudarstvennyy universitet, Kafedra mikrobiologii.
(BACTERIA, CELLULOSE-DECOMPOSING) (BUTYRIC ACID BACTERIA)

NIKITIN, G.A. [Nikitin, H.O.]

Fermentation of cellulose by pure cultures of anaerobic cellulose bacteria in the presence of simple sugars. Mikrobiol. zhur. 23 15-18 '61. (MIRA 15:4)

1. Kafedra mikrobiologii Kiyevskogo universiteta.
(BACTERIA, CELLULOSE--DECOMPOSING)
(SUGAR--PHYSIOLOGICAL EFFECT)

NIKITIN, G. O.[Nikitin, H. O.]

Fermentation of calcium lactate by cultures of amaerobic cellulose and butyric bacteria. Mikrobiol. zhur. 24 no.1:37-40 '62. (MIRA 15:7)

1. Institut mikrobiologii AN UkrSSR.

(CALCIUM LACTATE) (BACTERIA, CELLULOSE--DECOMPOSING) (LACTOBACTERIACEAE)

NIKITIN, G.A.

Use of undiluted molasses distiller's slop for the production of vitamin B_{12}. Spirt. prom. 29 no.6:23-24 '63. (MIRA 16:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut spirtovoy i likero-vodochnoy promyshlennosti.
(Distilling industries—By-products)
(Cyanocobalamine)

NIKITIN, G.A.; Prinimali uchastiye: PONOM[illegible], [illegible]; [illegible]

Studying the fermentation conditions of distillery molasses stillage by methane-forming bacteria for the production of vitamin B_{12}. Trudy UkrNIISP no.9:139-144 '64. (MIRA 17:10)

NIKITIN, O.A.

Accumulation of the culture of methane-forming bacteria in the production of vitamin B_{12} on molasses stillage. Ferm. i spirt. prom. 30 no.3:30-31 '64. (MIRA 18:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut spirtovoy i likero-vodochnoy promyshlennosti.

NIKITIN, G.A.

Vitamin B_{12} synthesis by accretive cultures of methane-forming bacteria of different origin. Prikl. biokhim. i mikrobiol. 1 no.2:150-154 Mr-Ap '65.

(MIRA 18:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut spirtovoy i likerovodochnoy promyshlennosti, Kiyev.

NIKITIN, G.A.

Fermentation of the secondary molasses stillage by methane forming bacteria for the production of vitamin B_{12}. Ferm. i spirt. prom. 31 no.2:32-34 '65. (MIRA 18:6)

1. Ukrainskiy nauchno-issledovatel'skiy institut spirtovoy i likero-vodochnoy promyshlennosti.

L 11110-66 EWT(l)/EWP(m)/EWT(m)/EWA(d)/T/ETC(m)/EWA(l)

ACC NR: AP6003181 SOURCE CODE: UR/0147/65/000/004/0038/0045

AUTHOR: Nikitin, G. A.

ORG: none

TITLE: Some characteristics of liquid flow through micron-size clearances

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 4, 1965, 38-45

TOPIC TAGS: hydraulic device, seal, fluid flow

ABSTRACT: The flow of liquid through small clearances is of interest in designing seals for moving parts in hydraulic systems. To study the characteristics of such flows, a series of tests were conducted in which AMG-10 standard-pure fluid, kerosene, and spindle oil were discharged through circular holes ranging from 0.03 to 0.5 mm in diameter, and rectangular slits with heights varying from 2 to 64 μ, and the widths and lengths, from 1.8 to 30 mm. The pressure gradient was varied from 10 to 600 kg/cm^2, and the fluid temperature was kept constant. The flow rates from 0.002 cm^3/min were measured, using a specially designed flowmeter. Curves of the ratio Q_a/Q_i (where Qa is the actual flow rate in a certain time interval, and Qi is the initial flow rate measured at the beginning of test run) versus time were plotted. The obtained results indicate that the fluid discharge through micron-size slits is not governed by classic hydrodynamic laws and, therefore, cannot be determined by Poiseuille's equation. The flow rate decreases with time.

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ACC NR: AP6003181

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with the rate of decrease depending on the pressure drop, slit dimensions, type of fluid and its purity and temperature. However, no reduction in the flow rate takes place if the walls which form a slit are subjected to vibrations at a certain frequency. The use of average flow rates based on time intervals of several minutes is recommended for designing seals of hydraulic systems. Orig. art. has: 7 figures. [AS]

11,44

SUB CODE: 21/ SUBM DATE: 02Dec64/ ORIG REF: 003/ ATD PRESS: 4176

Card 2/2

ACC NR: AT7000714 (N) SOURCE CODE: UR/0000/66/000/000/0083/0093

AUTHOR: Nikitin, G. A. (Candidate of technical sciences); Dikhno, V. I. (Engineer)

ORG: none

TITLE: Flow of a viscous incompressible liquid in conical slits

SOURCE: Ukraine. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya. Gidroprivod i gidropnevmoavtomatika (Hydraulic drive and hydropneumatic automation), no. 2, Kiev, Izd-vo Tekhnika, 1966, 83-93

TOPIC TAGS: hydraulic fluid, fluid flow, flow rate, flow analysis, viscous fluid, incompressible fluid

ABSTRACT: The flow of a vi. ous incompressible liquid in conical slits is analyzed on the basis of Navier-Stokes' and flow-continuity equations. It is shown that the flow rate is of parabolic character at any slit section and is a function of the conicity parameter $K = \frac{h_1 - h_0}{h_0}$, where h_0 and h_1 are the inlet or exit clearances. The pressure varies according to convex (contracting slit) or concave (expanding slit) curves, with a straight dividing line between these at K = 0. The smaller the inlet clearance at constant slit conicity and the higher the conicity at constant inlet clearance, the more significant are the deviations from the dividing straight line. The increase in the wall pressure at contracting slits and the flow rate rising at higher K-values, and vice versa, is demonstrated. A very small

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ACC NR: AT7000714

conicity significantly affects the flow rate, the decrease of which through microvolumetric slits is mostly due to impurities in the pressure fluid. The higher the fluid's filtration the smaller will be the slits' size, at which the flow will be steady and without obliteration. By increase of a filter retaining particles over a certain size, obliteration at slits larger than that size can be avoided. Orig. art. has: 6 figures and 14 formulas.

SUB CODE: 20/ SUBM DATE: 29Jun66/ ORIG REF: 004

Card 2/2

ACC NR: AT7000715 (N) SOURCE CODE: UR/0000/66/000/000/0094/0102

AUTHOR: Nikitin, G. A. (Candidate of technical sciences)

ORG: none

TITLE: Influence of the filtration fineness of a liquid on the obliteration of clearances in the slotted seals of hydraulic units

SOURCE: Ukraine. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya. Gidroprivod i gidropnevmoavtomatika (Hydraulic drive and hydropneumatic automation), no. 2. Kiev, Izd-vo Tekhnika, 1966, 94-102

TOPIC TAGS: fluid dynamics, hydraulic fluid, fluid flow, forced flow, flow rate, [illegible] property, [illegible]

ABSTRACT: Investigations on the presence of impurities in AMG-10 industrial fluid and in the fluid used in aircraft hydraulic systems proved the impurities to be the main source of obliterations of clearances in slotted seals of hydraulic units. In experiments with fluids forced through sample slots, the blocking of passages by unfiltrated impurities, the size and the number of mechanical particles per unit volume, and their concentration by volume were determined. The relationship between the relative flow rates, the time required to force fluid through the slots, and slot sizes is presented for various filter types, and it is shown that the flow rate is steady and independent of time, and that its decrease is due to obliteration. The obliteration of a relatively large slot has little effect on the flow rate, which can be determined

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ACC NR: AT7000715

according to the Hagen-Pouiseville law. The process of obliteration is mainly influenced by the filter's fineness. Particles which are larger than the slot's height block the entry and in so doing decrease the passage through the slot, which there acts like a filter for particles of even smaller size; the contrary happens at slots which are larger than the particles. That spindle oil possesses a much higher degree of flow decrease than does AMG-10 oil is explained by its more intensive contact interaction with the metallic walls, creating boundary layers which decrease the slot's active section. Orig. art. has: 7 figures and 2 tables.

SUB CODE: 13, 20/ SUBM DATE: 29Jun66/ ORIG REF: 007

Card 2/2

NIKITIN, G. A., Cand Tech Sci — (diss) "Investigation of the jamming phenomenon of piston connections in the airplanes hydraulic system," Kiev Institute of the Civil Air Fleet) (KL, 45-60, 126)

SOV/147-59-2-10/20

AUTHORS: Bashta, T.M. and Nikitin, G.A.

TITLE: Investigation of the Hydraulic Lock Phenomena in Piston Valves (Issledovaniye yavleniya gidrozashchemleniya plunzhernykh par)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1959, Nr 2, pp 83-94 (USSR)

ABSTRACT: This is a work based mainly on the results of references 1-4 as applied to the piston control valves used in aircraft hydraulic systems, consisting of a double ended piston and a cylinder with ports as shown in Fig 1. The clearance between the piston and the cylinder can be made extremely small so that the leakage past the piston lands is very small even at high pressures. On the other hand, it may not be reduced to nothing as this would induce high friction forces. Based on practical experience it seems appropriate to allow about one micron for each 2.5 mm of the piston diameter. Due to pressure difference at the two ends of the valve, there is a flow of liquid from the region of the higher pressure

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towards the region of the lower pressure. For viscous flows in a narrow clearance the rate of flow is given by Eq (1) whose solutions for the three different types (I, II and III) of the clearance as shown in Fig 2 are given by Eq (2), (3) and (4) respectively. Fig 3 shows the axial pressure drop along these clearances. For the parallel clearance the pressure drop is linear, i.e. depends only on the axial position of the given point. But for the divergent and convergent clearances it is curvilinear and depends not on the axial distance (x) but also on the size of the inlet clearance (h_1) and the tapering ratio (m). Figures 4, 5, 6 and 7 show the effect of these as follows: Figures 4 and 5 apply to the divergent clearance and Figures 6 and 7 apply to the convergent clearance, in the first diagram, in each case, h_1 being constant and the tapering increases, while in the second diagram the tapering is constant but the initial clearance decreases. Due to the asymmetrical distribution of pressure around the piston there appears a transverse force N

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which displaces the piston further and further until it eventually contacts the cylinder, thus evoking a frictional force which opposes any axial movement of the piston. As the coefficient of viscous friction decreases with the thickness of the oil film (see Fig 8 and Ref 5) it is seen that the locking force increases not only because the transverse force on the piston increases with the pressure in the cylinder but also because the coefficient of friction increases: at first on account of a decreased clearance gap (and hence decreased the oil film) and then on account of the viscous friction being transformed into semi-dry friction when the piston is in contact with one side of the cylinder. Fig 9 shows under what conditions a locking force can be produced: I - the clearance is parallel, the pressure distribution is axisymmetric and, therefore, there is no transverse force on the piston; II - unstable position of the piston with a sideways thrust on the piston tending to push it back into its

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central position; III - divergent clearance, piston axis displaced to one side by an amount ε due to which the pressure distribution is asymmetrical and a transverse locking force is directly proportional to ε; IV - Converging clearance: when piston is displaced sidewards there will be a restoring transverse force produced, which pushes the piston back into its central position, i.e. the piston is in a stable equilibrium when situated centrally in its bore; V - local attachment of some foreign body also produces a transverse locking force N. The magnitude of the locking force for the case of divergent clearance is found from Eq (6) by integration, the solution being Eq (7) which is obtained on the assumption that the flow is laminar, entirely in the axial direction and the coefficient of friction being constant. The last relation may be expressed in a dimensionless form as given by Eq (8), by dividing it by a force $N = p_0 2 l_0 r$, which is a reference force, and by introducing the relative taper ratio $k = \tau/c$ (see Ref 3). This is called the

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normalised pressure. Fig 10 shows its dependence on the taper ratio when $\varepsilon = 0$. Experiments confirm these theoretical formulae as shown in Fig 11 where the effect of pressure on the locking force is given for the pistons A and B shown in Fig 12.I and the table under the figure (for the piston of Fig 12.II there is no locking force). A simple method to reduce the unbalanced radial pressures on the piston is to make small circumferential grooves in it (Fig 13 and 14). Experiments with one type of valve showed that a single groove reduces friction force from 100 to 40% and seven grooves give only as little as 2.7%. Since grooves and tapering of the piston help to maintain the piston in its central position, this means that they reduce leakages as well, because leakage increases directly proportional to the eccentricity of the piston position in the cylinder. To reduce the friction more radically, the piston may be made to revolve or to oscillate about its axis. This increases the film thickness between the rubbing surfaces as

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shown in Fig 15 and substantially reduces friction. Eg for a 55 mm piston with a flow of 120 l/min of the liquid under a pressure of 6 kg/cm^2, the friction force of an ordinary piston valve was found to be 5 kg, while the same valve with rotating cylinder suffered only 70 gr frictional force. There are 15 figures and 6 references, 2 of which are Soviet and 4 English.

ASSOCIATION: Kiyevskiy aviatsionnyy institut GVF, Kafedra gidravliki (G.V.F. Institute of Aeronautics of Kiyev, Chair of Hydraulics)

SUBMITTED: December 7, 1958

69312

S/147/60/000/01/001/018
E022/E535

26.4000

AUTHORS: Bashta, T. M. and Nikitin, G.A.

TITLE: Investigation of Friction Force in Hydraulic Piston-Valve Units

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1960, Nr 1, pp 3-11 (USSR)

ABSTRACT: The article is an extension of earlier work, published in Nr 2, 1959 of this journal, and deals with the friction forces between the piston-valves and their casings, the influence of high pressure on the hydraulic lock as well as the effect of the total fall of input pressure on the friction force. The characteristics of systems with very high working pressure differ from those of systems with low and medium pressures. As shown in the earlier paper, the force required to move the piston-valve increases steadily with pressure but when the working pressure is of the order of hundreds of atmospheres new factors appear and influence the locking of the valve. Both the piston and the cylinder will deform at these pressures

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and hence the clearance changes so that the geometry and configuration of the system alters. Also the viscosity of the fluid along the clearance at these pressure gradients can no longer be considered as constant. Fig 1 shows the axial and transverse section of a hydraulic valve pair, the inner and outer radii of the cylinder being r_1 and r_2 respectively, while the maximum radius of the valve is r_3 and it tapers down to $(r_3 - \tau)$. The radial deformation of the cylinder due to pressure p is then given by Eq (1), where σ is the Poisson's ratio for the cylinder material. Similarly the radius of the piston will decrease by an amount given in Eq (2), $r_{пл}$ being the local value of the piston radius. Hence the total increase of the clearance is the sum of the two as given by Eq (3), in which k is a constant which depends on the geometry of the system and the properties of the materials used. Eq (3) does not include the effects of the tangential stresses

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resulting from the pressure change (gradient) along the cylinder. Since the maximum pressure is at the inlet p_1 and diminishes along the cylinder (to p_2) hence the clearance will change in a similar manner, e.g. for the system as in Fig 1, when $r_1 = r_{00} = 6$ mm, $r_2 = 12$ mm, $\tau = 0.002$ mm, $\ell_o = 10$ mm, $c = 0.005$ mm material of the piston and cylinder being the same (cast steel 12KhNZA) with $E = 2.04 \cdot 10^6$ kg/cm^2 and $\sigma = 0.28$, then with exit pressure $p_2 = 1$ kg/cm^2 the change in clearance for various pressures is as quoted in the table on p 5, from which it can be seen that very high pressures produce changes in the clearance of the same order as their initial values or of the order of the tapering. Thus in the case of a system with initially increasing clearance (susceptible to hydraulic locking) deformation produced by the pressure will tend to reduce the tapering, so that the clearance will become uniform at first and then, at very high

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pressures, the clearance will actually decrease; under these conditions the valve will not get locked. Experiments confirm this conclusion. In the example considered above, the uniformity of the clearance gap was obtained at 300 kg/cm^2. In the case of small inaccuracies of the shape the piston may become free from locking forces even at relatively low pressures, as shown in Fig 2, where the full line represents the force (F, in g) required to move the piston from rest, and the dotted line represents the electric resistance, in ohms, of the clearance (the lubricant between the two metals acts as a dielectric). The graph in Fig 2 is the result of experiments carried out on a system as shown in Fig 3, where (1) is the manometer registering the inlet pressure, (2) is the valve, (3) is the cylinder, (4) is ohmmeter. The range of pressures used was from 0 to 300 kg/cm^2 by increments of 25 kg/cm^2. The pressures were kept constant for one

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minute before the readings were taken. Each experiment was repeated three times. The initial force needed to move the piston with no pressure was 44 g; it increased to 1500 g at 75 kg/cm^2 and then decreased until, at 200 kg/cm^2, the piston was completely free from locking, the force needed for the axial movement becoming again 44 g for all pressures up to 300 kg/cm^2. With no inlet pressure into the lubricant the resistance of the system oscillated between 0.5 to 3 ohms. As the pressure increased the valve was pushed towards the wall on one side squeezing out the lubricant from that side until full contact was established so that resistance fell to zero. This happened at pressure of about 25 kg/cm^2 and conditions remained static up to 150 kg/cm^2, after which the resistance began to increase (2.8 ohms at 200 kg/cm^2 11 ohms at 250 kg/cm^2) indicating that the contact between the piston and the cylinder was broken and the valve became displaced towards the central position. One of

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the causes of hydraulic jamming of valves may be the insufficient elasticity of the housings. These, very often, may have a variable outer form so that the thickness of the wall is variable. When the initial clearance is small, it is possible, therefore, that at high pressure with deformed piston the magnitude of the clearance in some places will increase while in the other will decrease so that the piston becomes jammed and no movement is possible at all. Experience shows that the magnitude of the locking force depends on the time during which the pressure acts on the system. This may be explained by the accumulation in the clearance of small foreign particles from the lubricant and also by absorption of the charged ions by the metallic surfaces. If the inlet pressure is then suddenly reduced to zero, the conditions do not return immediately to those of the initial state and the force

 needed to move the piston may be many times larger than

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that which would have been required if the pressure were not applied at all. In fact, several movements of the pistons are required before the conditions return to the initial state. The plot, Fig 4, shows the effects of time and pressure on the magnitude of the locking force F. The results were obtained during the tests of a system shown in Fig 1 in which the dimens ons were as follows: piston dia. 12 mm, piston wid h 10 mm, diametral clearance 10 microns, outer diameter of the cylinder 50 mm. Both the piston and cylinder were made of U12 carbon tool steel. The surfaces were heat treated until their hardness reached the value of $R_c = 50$ and then they were ground and polished. Each experiment was repeated three times and the data were taken over the first minute after the pressure was removed. The effect of impurities in the lubricant on the locking force F is shown in Figs 6 and 7, the upper curve referring to the non-purified oil AMG-10 and the lower to the same oil but purified

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by passing it through special paper filters supported on a metal net. When the purified oil was used, the valve and the piston were washed with aviation gasoline B-70 and then blown through by compressed air. The amount of impurities present in the oil may be judged from the photograph, Fig 5 (magnification 170 X); the left figure is a photo of a sample of fully purified oil and the right figure is a photo of the same oil not purified.
There are 7 figures, 1 table and 2 references, 1 of which is Soviet and 1 English.

ASSOCIATION: Kafedra aeromekhaniki i gidravliki, Kiyevskiy institut GVF (Chair of Aerodynamics and Hydraulics, Kiyev GVF Institute)

SUBMITTED: October 3, 1959

S/147/61/000/001/014/016
E022/E135

26.2195

AUTHORS: Bashta, T.M., and Nikitin G.A.

TITLE: The Influence of the Oscillatory Motion of the Piston on the Friction Force in Hydraulic Systems With Piston Valves

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1961, No. 1, pp. 121-125

TEXT: Experiments with hydraulic piston valves employed in governing mechanisms etc show that if the hydraulic pressure is large the frictional forces against the motion of the valve may increase up to a hundred times the corresponding values under low pressures (Refs. 1, 2). Such a large increase in resistance to the movement of the valve may cause partial or total failure of the system. In order to diminish the resistance, it is usual to make one element of the hydraulic pair either to oscillate with high frequency and small amplitude or to rotate about its axis. The earlier work of the author T.M. Bashta shows that such a rotational motion of the tube diminishes the force of resistance from 5 kg to 70 grams. The present work was carried out in order

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to evaluate the effect of the oscillatory motion of the piston on the resistance to its motion. The range of oscillations tested was from 0.1 to 2.4 mm, with the frequency of oscillations from 2 to 30 c.p.s. Oscillations of the piston were produced by an electromagnet which was connected axially with the piston and was fed by d.c. of alternate polarity using a rotary switch. This was driven by a variable speed (120 to 1800 r.p.m.) motor giving switching frequencies of 2 to 30 per sec. The piston valves tested were of two-collar type with a single groove between the collars; diameter of the collars 12 mm, width of the collars 10 mm. The shape of the valves was so chosen that under pressures used, they seized, as described in earlier work of the authors (same journal, 1959, No. 2). Experiments showed that the change of amplitude of oscillation in the range from 0.1 to 2.4 mm at the given pressures did not affect the magnitude of the seizing force, but the higher the pressure of the fluid the higher the value of the seizing force. As the frequency of oscillation increases, the

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seizing force diminishes at first but then becomes sensibly constant as shown in Fig.3. In order to determine the force necessary to move the valve under various pressures when the valve oscillated a series of experiments was carried out up to a pressure of 400 kg/cm^2. The valve was kept under a given pressure for a minute and then it was moved. Fig.4 shows the results of these experiments for three different valves, a, б, and в. Ringed dots indicate the forces necessary to shift the valve without oscillations, while solid dots indicate the corresponding forces with the same valves when oscillating. It is clearly seen that oscillations reduce the resistance to the motion of the valve. Finally, some experiments were carried out to find out the effect of a sudden drop of the pressure in the system. Figs 5 and 6 show these results. The pressure was built up to 500 kg/cm^2, kept at that value up to 20 minutes and then suddenly reduced. As is seen from Fig.5, the forces necessary to move the piston in those circumstances fall

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substantially when the piston oscillates (ring dots) as compared with those when it does not (solid dots). The explanation is that when the piston is not oscillating the flow of the fluid past it is greatly reduced with time at high pressures, while with the piston oscillating the flow of the fluid is not impaired at all, as shown in Fig 6.
There are 6 figures and 3 Soviet references.

ASSOCIATION: Kiyevskiy institut GVF, Kafedra aeromekhaniki i gidravliki
(Chair of Aeromechanics and Hydraulics, Kiyev Institute of the GVF)

SUBMITTED: May 3, 1960

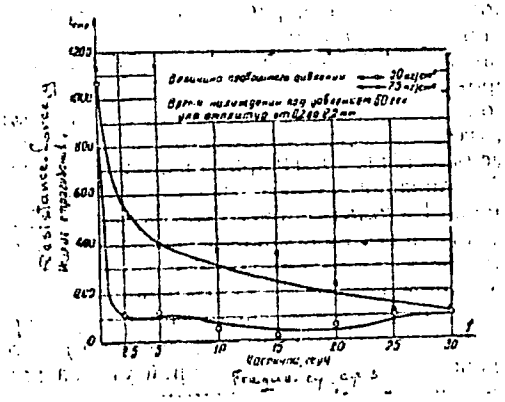

Fig. 3

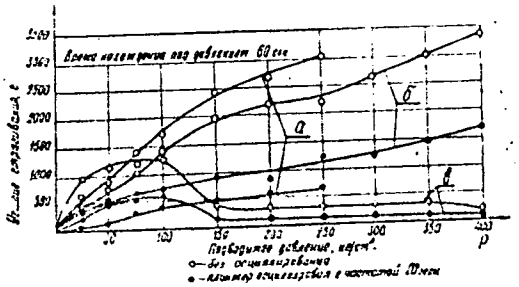

Fig. 4

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The Influence of the Oscillatory ...

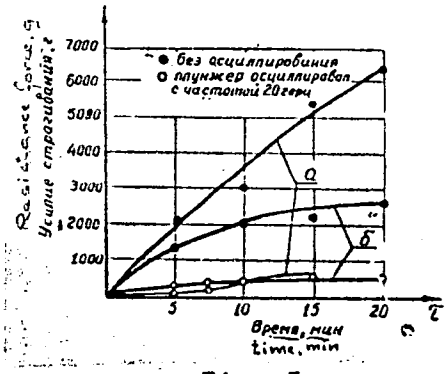

Fig. 5

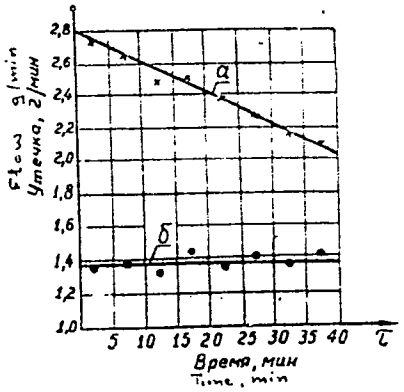

Fig. 6

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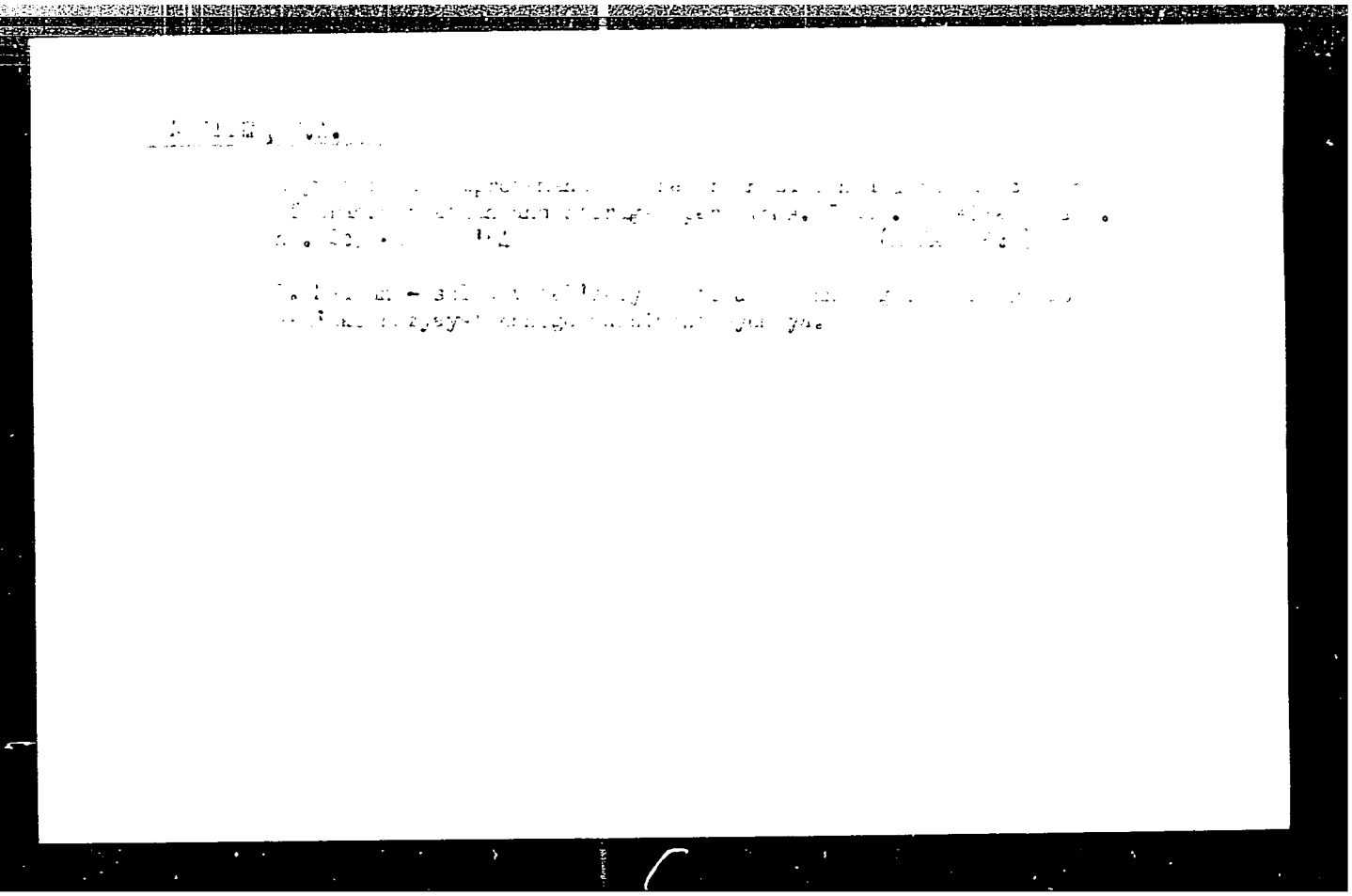
NIKITIN, G.A., kand.tekhn.nauk

Choking of plunger pairs after a drop in the supplied pressure.
Vest. mash. 41 no. 5:32-33 My '61. (MIRA 14:5)
(Pistons)

NIKITIN, G.A.

Improve the organization of auxiliary work at tractor and agricultural machinery plants. Trakt. i sel'khozmash. no.10:40-41 O '64. (MCR

1. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'skokhozyaystvennogo mashinostroyeniya.



NIKITIN, G.A.; KRASNITSKIY, S. Ye.

Friction forces and relieving grooves in slide-valve distributors. Stan. i instr. 35 no.12:11-13 D '64
(MIRA 18:2)

NIKITIN, G.A., kand. tekhn. nauk

Filtration of working fluids of hydraulic systems. Gidr. mash. i gidr. no.1:78-85 '65. (MIRA 18:12)

1. Kiyevskiy institut Grazhdanskogo vozdushnogo flota.

NIKITIN, G.D.

NIKITIN, G. D., AR'EV, T. IA.

Muscle tissue therapy of bone defects. Khirurgiia, Moskva No. 11, Nov. 50. p. 14-22

1. Of the Department of Hospital Therapy (Head—Prof. S. S. Girgolav), Military Medical Academy imeni S. M. Kirov.

CLL 20, 3, March 1951

NIKITIN, G.D.

NIKITIN G. D.

Nekotoryye redkiye formy khirurgicheskogo tuberkuleza. [Some rare forms of surgical tuberculosis] Vest. khir. 70:1 1950 p. 49-52

1. Of the Second Section (Head--T. Ya. Ar'yev) of the Hospital Surgical Clinic (Head--S. S. Girgolav) of the Military Medical Academy imeni S. M. Kirov, 11 Botkinskaya Ulitsa (Street), Leningrad (address of clinic).

CLML 19, 1, July 50

AR'YEV, T.Ya.; NIKITIN, G.D.

Transplantation of muscle flaps from one extremity into the other in plastic repair of bone cavities. Vest. khir. 71 no.2:23-31 1951. (CLML 20:8)

1. Of the Department of Hospital Surgery of the Military Medical Academy imeni S.M. Kirov (Head of Department—S.S. Girgolav).

NIKITIN, G.D.

Plastic surgery in subcutaneous ruptures of the Achilles tendon. Khirurgiia, Moskva no. 2:87-88 Feb 1953. (CLML 24:2)

NIKITIN, G.D.

Cutaneomuscular grafts in the treatment of severe forms of chronic osteomyelitis. Khirurgiia, no.4:48-52 Ap '55. (MLRA 8:9)

1. Khirurgicheskaya klinika Saratovskogo meditsinskogo instituta (zav. -klinikoy T.Ya. Ar'yev)

(OSTEOMYELITIS, surgery,
skin musc.grafts)
(SKIN TRANSPLANTATION, in various diseases,
osteomyelitis, skin musc.grafts)
(MUSCLES, transplantation,
skin musc.grafts in osteomyelitis)
(TRANSPLANTATION,
musc. -skin grafts in osteomyelitis)

NIKITIN, G.D.

NIKITIN, G.D., dotsent

Surgical treatment of fractures of the elbow. Ortop.,travm. i protez. 18 no.2:7-11 Mr-Ap '57. (MLRA 10:8)

1. Iz khirurgicheskoy kliniki (zav. - prof. T.Ya.Ar'yev) Saratovskogo meditsinskogo instituta

(ELBOW, fract. surg.)
(HUMERUS, fract. surg.)

NIKITIN, G.D., dotsent; TRUNIN, M.A., kand.med.nauk

Reimplantation and primary dermatoplasty in extensive skin avulsions of the leg and hip. Trudy LSGMI 59:59-63 '60. (MIRA 14:9)

1. Gospital'naya khirurgicheskaya klinika Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. klinikoy - prof. A.V.Smirnov).
(EXTREMITIES, LOWER--WOUNDS AND INJURIES) (SKIN GRAFTING)

NIKITIN, G.D., dotsent

Injuries of the internal lateral ligament of the knee joint in experiments on cadavers. Trudy LSGMI 59:64-78 '60. (MIRA 14:9)

1. Gospital'naya khirurgicheskaya klinika Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. klinikoy - prof. A.V.Smirnov).

(KNEE--WOUNDS AND INJURIES)

NIKITIN, G.D., dots.

Metallic osteosynthesis in the lower third of the shin. Nov. khir.arkh. no.4:82-83 '62. (MIRA 15:5)

1. Kafedra obshchey khirurgii (zav. - zasl. deyatel' nauki, prof. A.V. Smirnov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(TIBIA--FRACTURE) (FIBULA--FRACTURE)
(INTERNAL FIXATION IN FRACTURES)

NIKITIN, G. G.

NIKITIN, G. G.: "The fight against inundations and summer floods in the Ussuri lowlands". (Results of studying floods and the development of methods of combatting them). Moscow, 1955. Min Agriculture USSR. VASKhNIL. All-Union Sci Res Inst of Hydraulic Engineering and soil Improvement. (Dissertations for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya letopis', No. 52, 24 December, 1955. Moscow.

SOV/124-58-1-1225

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 154 (USSR)

AUTHOR: Nikitin, G.G.

TITLE: Contribution to the Calculation of Certain Joints in Wooden Structures (K voprosu rascheta nekotorykh soyedineniy v derevyannykh konstruktsiyakh)

PERIODICAL: V sb.: 15-ya nauchn. konferentsiya Leningr. inzh.-stroit. in-ta Leningrad, 1957, pp 65-70

ABSTRACT: An X-ray investigation on butt joints is performed relative to steel pins and screws. The use of radioactive cobalt isotopes was tried out on the same model of a joint.

Reviewer's name not given

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NIKITIN, G.G.; KOPYLOV, A.P.

New three-dimensional plywood elements. Sbor. nauch. trudov LISI no.34:63-77 '61. (MIRA 15:8)

(Plywood) (Roofs)

S/081/61/000/021/079/094
B144/B110

AUTHOR: Nikitin, G. G.

TITLE: Problems of utilization and calculation of pinned connections of plastics

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 451, abstract 21P79 (Sb. nauchn. tr. Leningr. inzh.-stroit. in-t, no. 34, 1961, 78 - 117)

TEXT: The possibility of using different types of plastic materials as supporting connections between structural elements of modified and non-modified wood and even of plastics was examined. It was established that pins and bolts of different plastics can suitably be used owing to their high supporting capacity, slight deformation, low weight, and simple manufacture. It is stated that it is most expedient to use pins and bolts pressed of plastics; this does, however, not exclude the use of similar pins and bolts obtained by machining. [Abstracter's note: Complete translation.]

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