

MATVEYEVA, Ye.P.

Phytocoenotic classification of herbaceous vegetation and its arrangement in types according to agricultural use in the haylands and pastures of the Soviet Baltic area. Trudy Bot. inst. Ser. 3 no. 12:229-252 '60. (MIRA 14:1)
(Baltic Sea region—Pastures and meadows)

MATVEYEVA, Ye.P.

Scientific session on problems in the establishment and use
of cultivated pastures. Bot.zhur. 45 no.6:931-935
Je '60. (MIRA 13:7)

1. Botanicheskiy institut im. V.L.Komarova Akademii nauk
SSSR, Leningrad.
(Pasture research--Congresses)

MATVEYEVA, Ye.P.

Principles and fragments of the classification and typology of the
vegetation of meadows and pastures as exemplified by the Soviet
Baltic area. Trudy Inst. biol. UP AN SSSR no.27:115-122 '61.
(MIRA 17:2)

MATVEYEVA, Ye.P.

Eighth International Grassland Congress. Bot. zhur. 46 no. 2:306-
311 P '61. (MIRA 14:2)

1. Botanicheskiy institut im. V.L. Komarova Akademii nauk
SBSR, Leningrad.

(~~Pasture research~~-Congresses)

MATVEYEVA, Ye.P.

Sixth excursion of Soviet Baltic Botanists. Bot.zhur. 47
no.3:444-449 Mr '62. (MIRA 15:3)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.
(Ealtic States--Botany)

MATVEYEVA, Ye.P.

Scientific conference on experimental geobotany. Bot. zhur. 47
no.7:1061-1067 J1 '62. (MIRA 15:9)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR,
Leningrad.

(Botanical research--Congresses)

MATVEYEVA, Ye. P., kand. biolog. nauk

Geobotanical Conference in Rumania. Vest. AN SSSR 33 no.1:
87-88 Ja '63. (MIRA 16:1)

(Phytogeography--Congresses)

KORCHAGIN, A. A.; MATVEIEVA, Ye. P.

"Forest types of the People's Republic of Rumania" by S. Pascovski
and V. Leandru. Reviewed by A. A. Korchagin, E. P. Matveeva.
Bot. zhur. 48 no.3:455-456 Mar '63. (MIRA 16:4)

1. Botanicheskiy institut imeni V. L. Komarova AN SSSR,
Leningrad.

(Rumania--Forest ecology) (Pascovski, S.)
(Leandru, V.)

ERINGIS, K.; MATVEYEVA, Ye.P., red.

[Perennial cultivated pastures in Lithuania; their fertilization and use] Dolgoletnie kul'turnye pastbishcha Litvy; ikh udcobrenie i ispol'zovanie. Pod red. E.P.Matvevoi. Vil'nius, AN Litovskoi SSR, 1964. 501 p. (MIRA 17:4)

1. Botanicheskiy Institut AN SSSR (for Matveyeva).

MATVEYEVA, Ye.P.; GAGARIN, P.K.; ZHOBENKAYA, L.A.

Biochemical composition of some meadow plants of the wide-herbaceous group. Bot.zhur. 49 no.6:875-877 Je '64.

1. Botanicheskiy institut imeni V.I. Komarova AN SSSR, Leningrad.
(MIRA 1:10)

MAIWEYEV, Ye.P.

"Innovations in the improvement of the use of meadows and pastures;
materials of the Eighth International Congress on Pastures and
Meadows." Bot.zhur. 49 no.6:903-904. Je '64.

1. Botanicheskiy institut imeni V.I. Komarova AN SSSR, Leningrad.
(MIRA 17:10)

MATVEYEVA, Ye.P.

Sergei Petrovich Smelov, 1894- ; on his 70th birthday. Bot. zhurn.
49 no.8:1225-1226 Ag '64. (MIRA 1964)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

MATVEYEVA, Ye.P.

Seventh botanical excursion to the Baltic states. Bot.zhur. 49 no.11:
1684-1687 N 64. (MIRA 18:1)

1. Botanicheskiy institut imeni V.I.Komarova AN SSSR, Leningrad.

MATVEYEVA, Ye.P.

Enlarged plenum of the section "Hayfields and Pastures" of the
Department of Agriculture of the All-Union Academy of Agricultural
Sciences. Bot. zhur. 50 no.1:156-159 Ja '65.

(MIRA 18:3)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

MATVEYEVA, Ye.Ye. (Moskva)

Role of women's health centers in the prevention of rupture of
the uterus. Sov. med. 24 no. 7:137-140 J1 '60. (MIRA 13:8)
(UTERUS—RUPTURE)

MATVEYEVA, Ye.Ye., kand.med.nauk

Ruptures of the uterus. Med. sestra 22 no. 3 23-25, M^r'63

(MIRA 16:6)

(UTERUS—RUPTURES)

MATVEYEVA, Z. F.: Master Agric Sci (diss) -- "Biological aspects and certain
~~problems~~ of the agrotechnology of potatoes under the conditions of the southern
Balkhash area". Alma-Ata, 1958. 19 pp (Min Agric USSR, Kazakh Agric Inst)
(KL, No 10, 1959, 127)

COUNTRY : USSR
 CATEGORY : Cultivated Plants. Potatoes, Vegetables, Cucurbits. M
 ABS. JOUR. : RZhBiol., No. 23 1958, No. 104687
 AUTHOR : Matyashin, Z. F.
 INST. : Ili Scientific Research Base, Academy of Sciences, Kazakh SSR
 TITLE : The Influence of the Planting Depth of Tubers on the Growth, Development and Yield of Potatoes in Southern Pribalkhash'ye
 ORIG. PUB. : KazSSR Bylyk Akad. khabarlary, Izv. AN KazSSR. Ser. botan. i pochvoved., 1958, vyp. 1, 118-126
 ABSTRACT : In 1955 and 1956, Planting depth of potato varieties Shyslovskiy, Katacin and Bul'ba on medium loamy sierozem with irrigation, was studied at Ili Scientific Research Base of the Academy of Sciences, Kazakh SSR. With the spring and summer periods of planting to the depth of 25-30 cm, the yield was 9-40% higher than with the usual planting to the depth of 15 cm. The average temperature of the soil during the entire vegetation period, at the depth of 25-30 cm was 4-5° lower than at the depth of 5-10 cm; sometimes the difference in temperatures reaches 10-11°; the moisture is the same or larger at the depth of 25-30 cm. Some varieties of potatoes with deep planting. -- The a. Shyslovskiy

Card: 1/2

51

MATVEYVA, Z.P.

Growth and developmental characteristics of potato varieties differing in the earliness of maturity as observed in the southern Balkash Lake region. Izv. AN Kazakh. SSR. Ser. bot. 1 pochv. no.1:22-35 '59.

(MIRA 13:6)

(Balkash Lake region--Potatoes)

PRESS, Yu.S.; MATVEYEVA, Z.I.

Pilot-plant testing of various methods of purifying ~~the~~
electrolytes from cobalt. TSvet. met. 34 no.11:29-34 N '61.
(MIRA 14:11)

(Nonferrous metals--Electrometallurgy)
(Cementation (Metallurgy))

L 18420-63

EWP(q)/EWT(m)/BDS AFPTC JD

S/0136/63/000/008/0069/0071

ACCESSION NR: AP3005801

AUTHORS: Matveyeva, Z. I.; Press, Yu. S.

TITLE: Application of modified sorbents for the selective extraction of germanium.

SOURCE: Tsvetny*ye metally*, no. 8, 1963, 69-71

TOPIC TAGS: germanium, tannic acid eluent, hydrochloric acid, zinc sulfate, Zn, Fe, Cu, Cd, As, sulfuric acid, silicon dioxide, Ge, zinc, iron, copper, cadmium, arsenic

ABSTRACT: The method of extraction of germanium using sorbents modified with tannic acid has been examined in solutions containing Zn, Ge, Fe, Fe⁺⁺, Cu, Cd, SiO₂, As and H₂SO₄. Several types of sorbents were examined, they include: Vofatite E, AH-1, and activated carbon of the cationic type. The results showed that the absorption of germanium on the AH-1 sorbent is almost quantitative from a solution of zinc sulfate. The capacity of sorbent for germanium absorption depends upon the nature of sorbent. Its capacity increases

53

Card 1/2

L 18420-63

ACCESSION NR: AP3005801

with an increase of germanium concentration. The desorption (elution) is made with 10% HCl and the total elution capacity is 85 to 95% of the total germanium absorbed. During the elution of germanium, the sorbent containing tannic acid is regenerated to approximately 80% of its capacity. Orig. art. has: 1 table and 1 figure. 0

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: CH

NO REF SOV: 000

OTHER: 000

Card 2/2

SOSHNIKOVA, L.A.; MATVEYEVA, Z.I.

Formation of tellurium trioxide during the agglomeration of slimes
with soda. TSvet. met. 36 no.11:62-64 N '63. (MIRA 17:1)

PRESS, Yu.S.; MAIVYEVA, Z.I.

Using sorption processes in the hydrometallurgy of
nonferrous metals. Sbor. nauch. trud. Gintsvetmeta
no.23:253-268 '65.

(MIRA 18:12)

SOSHNIKOVA, L.A.; MATVEYVA, Z.I.

Behavior of certain tellurium-oxygen compounds during heating and sintering with soda. Sbor. nauch. trud. Gintsvetmeta no.23:328-334 '65.

Chemical aspects of the interaction between gold, silver, and copper tellurides with soda. Sbor. nauch. trud. Gintsvetmeta no.23:335-340 '65. (MIRA 18:12)

SERGEYEVA, Z.I.; MATVEYEVA, Z.M.; VORONKOV, M.G.

Organosilicon ethers of ketoximes and of benzaldehyde and
o-hydroxybenzaldehyde oximes. Zhur.ob.khim. 31 no.6:2017-
2023 Je '61. (MIRA 14:6)

1. Leningradskiy gosudarstvennyy universitet i Institut khimii
silikatov AN SSSR.
(Silicon organic compounds) (Ketones) (Benzaldehyde)

BOBROVA, M.I., MATVEYEVA, KUDASHEVA, A.N.

Polarographic determination of nitriles. Zhur. ob. khim. 28
no.11:2929-2932 N '58. (MIRA 12:1)

Leningradskiy inzhenerno-ekonomicheskiy institut.
(Polarography) (Nitriles)

AUTHORS: Bobrova, M. I., Matveyeva-Kudasheva, A. N. SOV/79-28-12-31/41

TITLE: Polarography of the Thermal Decomposition of 2,2'-Azobisisobutyro Nitrile in Vinyl Butyl and Methyl Methacrylic Ether Medium (Polyarografiya termicheskogo razlozheniya 2,2'-azobisizobutiro-nitrila v vinilbutilovom i metilmetakrilovom efirakh)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 12, pp 3297-3302 (USSR)

ABSTRACT: A large number of papers published deal with the decomposition of aliphatic azo compounds which are initiators of the radical polymerization (Refs 1-7); in these papers colorimetric methods were employed and the rate of decomposition was classified also according to the quantity of the separated nitrogen. The authors were interested in employing the polarographic method also to the decomposition process of the azo compounds, especially 2,2'-azobisisobutyro nitrile (ABN). Besides the direct determination of the decomposing azo compound in each stage of polymerization the authors intended to determine at the same time the nitriles as products of the deactivation of the radicals of the azo compound, as well as the monomer in which the decomposition of the initiator takes place. The polarographic data obtained in this way can also characterize the state of the medium to be investigated (in oxidized or reduced

Card 1/2

Polarography of the Thermal Decomposition of 2,2'-Azobisisobutyro Nitrile in
Vinyl Butyl and Methyl Methacrylic Ether Medium

SOV/79-28-12-31/41

state) according to the course of the polymerization process. The decomposition of the nitrile (ABN) was carried out in two media which differed considerably with respect to the inclination to form chains of the polymer. These two media were: vinyl butyl and methyl methacrylic ether. The former is in a lower degree subjected to the radical polymerization with the initiator mentioned. In contrast with it methacrylic ether is polymerized most completely under the same conditions. Thus, the polarographic method of investigating the process of radical polymerization was made possible and the conditions for this method in the case of 2,2'-azobisisobutyro nitrile in its thermal decomposition in the above mentioned two ethers were found; this led to the determination of the velocity constant of its thermal decomposition. There are 6 figures, 1 table, and 11 references, 4 of which are Soviet.

ASSOCIATION:

Leningradskiy inzhenerno-ekonomicheskij institut
(Leningrad Engineering and Economics Institute)

SUBMITTED:

November 12, 1957

Card 2/2

BIRYUKOV, I.V., kand. tekhn. nauk; MATVEYEVICHEN, A.P., inzh.

Use of analog computers in modeling the vertical dynamics of
the motor cars of ER2 electric trains. Trudy NIIT no.207:
113-127 '65. (MIRA 19:1)

MATVEYEVSKAYA,
MATVEYEVSKAYA, A.I.

Structure of the Paleozoic foundation in the Biysk-Barnaul depression.
Trudy Geol.-geol. inst. Zap.-Sib. fil. AN SSSR no.15:57-63 '56.
(Altai Territory--Geology, Structural) (MIRA 11:1)

MATVEYEVSKAYA, A.I.
MATVEYEVSKAYA, A.I.

Structure and development of the Kolyvan'-Tomsk arc near its junction
with the Salair Ridge. Trudy Gor.-geol. inst. Zap.-Sib. fil. AN SSSR
no.15:77-92 '56. (MIRA 11:1)
(Ob' Valley--Geology, Structural) (Salair Ridge)

MATVEYEVSKAYA, A.I.
MATVEYEVSKAYA, A.I.

Structure of the present surface and loose ground cover in the
northwestern Salair Ridge region. Trudy Gor.-geol. inst. Zap.-Sib.
fil. AN SSSR no.15:129-144 '56. (MIRA 11:1)
(Salair Ridge--Geology, Structural)

MATVEYEVSKAYA, A.I.

~~MATVEYEVSKAYA, A.I.~~

Tectonics of the buried Paleozoic bedrock in the southern part of the West Siberian Plain. Izv.vost.fil.AN SSSR no.4/5:52-61 '57.

1. Zapadno-Sibirskiy filial Akademii nauk SSSR.
(Siberia, Western--Geology, Structural)

AUTHOR: Matveyevskaya, A.L. SOV/11-58-11-7/14

TITLE: On the Position of the Rudnyy Altay in the Structural System of the Sayany-Altay area (O polozhenii Rudnogo Altaya v strukturnom plane Sayano-Altayskoy oblasti)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geologicheskaya, 1958, Nr 11, pp 84 - 96 (USSR)

ABSTRACT: The author describes the structure of different parts of the Sayany-Altay area, and compares them with the structure of the Rudnyy Altay. According to the findings of numerous geologists, the Rudnyy Altay is a region of the development of small block structures of the zone of junction of the Variscian synclinal system with the bordering Epi-Caledonian plateau of the Gornyy Altay. There are 4 sets of diagrams, 1 chart, and 20 Soviet references.

ASSOCIATION: Zapadno-Sibirskiy filial AN SSSR, g. Novosibirsk (The West-Siberian Branch of the AS USSR, Novosibirsk)

SUBMITTED: May 17, 1957

1. Geology 2. Mountains---Structural analysis

Card 1/1

MATVEYEVSKAYA, A.L.; IVANOVA, Ye.F.; VAKHRAMBYEV, V.A., otv.red.; ZAYTSEV,
N.S., otv.red.; KULIKOV, M.V., red.izd-va; KHUGLIKOVA, N.A.,
tekhn.red.

[Geology of the southern part of the West Siberian Plain in
connection with its oil and gas potentials] Geologicheskoe
stroenie iuzhnoi chasti Zapadno-Sibirskoi nizmennosti v sviasi
s voprosami neftegazonosnosti. Moskva, Izd-vo Akad.nauk SSSR,
1960. 263 p. (MIRA 13:7)

1. Zapadno-Sibirskiy filial AN SSSR (for Matveyevskaya, Ivanova).
(West Siberian Plain--Petroleum geology)
(West Siberian Plain--Gas, Natural--Geology)

MATVEYEVSKAYA, A.L.

Geology of the surroundings of the Novosibirsk Research
Center. Geol. i geofiz. no.10:147-153 '62. (MIRA 15:12)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR,
Novosibirsk.
(Novosibirsk Province—Geology, Structural)

MATVEYEVSKIY, R.M.; BOGATYREV, I.S.; KHRUSHCHEV, M.M.

▲ "four-ball" lubricating oil testing apparatus. Tren. 1 izn.
mash. no.9:72-83 '54. (MIRA 7:9)
(Lubrication and lubricants--Testing)

MATVEYEVSKIY, R. M.

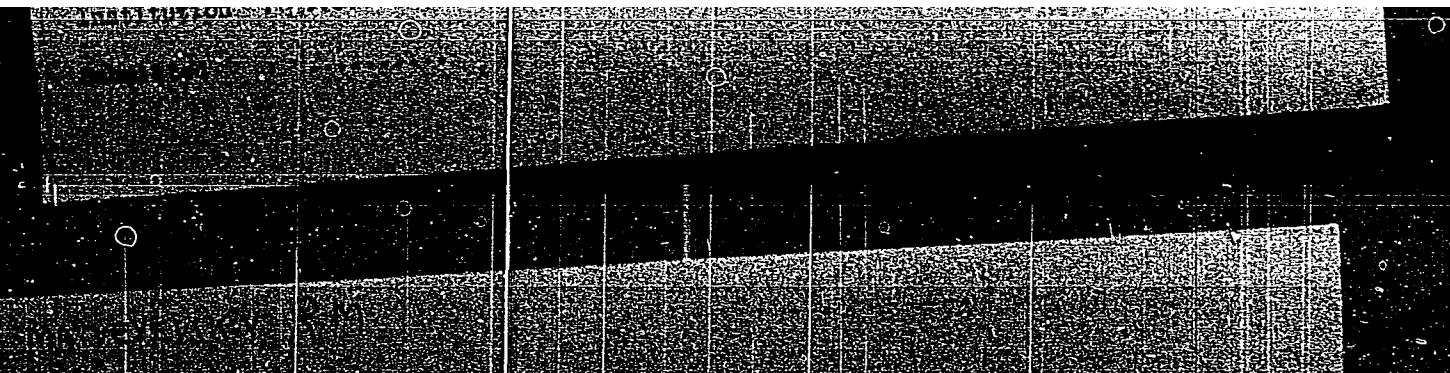
Chemical Abstracts
May 25, 1954
Petroleum

2) New method for testing lubrication oils. M. M. Khrushchov and R. M. Matveevskii. *Vestnik Mashinostroyeniya* 34, No. 1, 12-18 (1953). Expts. with a four-ball testing device, transformer oil, rotational velocities of 10 to 100 cm./sec., and axial loadings up to 125 kg. showed that the boundary lubricating film, corresponding to the destruction of this film, developed by friction, which remains const. under any variations of the testing conditions, provided the same oil is used. For checking the influence of temp. alone, an oil tester with four 12.7-mm. balls of hardened steel, speed of revolution of 1 r.p.m., const. axial loading of 38 kg., elec. means for heating the oil bath, and a recording torsional dynamometer for measuring the torque of the lower balls was constructed. Oil was heated to the desired temp., the upper ball set in motion for 30 sec., and the torque produced measured. After washing the app., the test was conducted with fresh oil at a higher temp. Plotting coeff. of friction against temp. produces curves which remain smooth at lower temp. but show a sharp increase followed by a drop at the end of the test at a higher temp., which is the crit. temp. for the oil, independent of oil viscosity. Addn. of 0.1% of stearic or oleic acids did not change the crit. temp. of a mineral oil to which they have been added, which remained at 120°, but adding 1.6% of an unidentified compd., raised it to above 380°, the coeff. of friction remaining practically const. at 0.11-0.12.

J. D. G...
9-24-54
JDP

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001033010011-1



APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001033010011-1"

MATVEYEVSKIY, Rostislay Nitrofanovich; SHIKIN, S.T., tekhnicheskiy
redaktor

[Study of friction in instrument ball bearings] Issledovanie trenia
v pribornyykh sberikopodshipnikakh. Moskva, Gos. nauchno-tekhn.
izd-vo mashinostroit. lit-ry, 1957. 33 p. (MLRA 10:5)
(Ball bearings) (Lubrication and lubricants)

Matveyevskiy, R.M.

AUTHORS: Khrushchov, M.M., Matveyevskiy, R.M., Bogatyrev, I.S. 32-11-42/60

TITLE: A Machine for Examining the Wear (of Samples) in Forward- and Backward Revolution (Mashina dlya ispytaniya na iznashivaniye pri vosvratno-vras'chatel'nom dvizhenii)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 11, pp. 1377-1379 (USSR)

ABSTRACT: The present paper describes a method of examining the wear of a hinge-like construction, for which purpose a special machine is used the constructional scheme of which is described in the paper. The machine was originally constructed by M.M.Khrushchev and later completed by I.S. Bogatyrev; in production it was known as "K6-6". The main principle of the machine consists in the fact that 2 pairs of the parts of a tractor as, e.g. 1 bolt and 1 sleeve are subjected to a hinge-like frictional movement, while carefully strained sand with a quartz content of 98% is conveyed on to the friction surface. The machine consists of 2 systems which are connected with each other; one of them is in a fixed position, the other is pivotable on a one-arm axis and can be weighted by means of exchangeable weights and pressed against the other system by means of a lever. The first pair of samples is telescoped so that the bolt is able to move freely in the sleeve with a sufficient amount of play; it is fastened into the first system of the machine in

Card 1/2

32-11-42/60

A Machine for Examining the Wear (of Samples) in Forward-and Backward Revolution

such a manner that the sleeve is clamped fast in the machine and the bolt from the outside. The second part of the samples is clamped fast in the same manner in the second system, with the only difference that the bolt is not in direct connection with the base plate but by means of a transmission, so that it is subjected to the pressure of the lever together with the (movable) system. In this way the samples were moved backwards and forwards 12.000 times, while, as already mentioned, sand was fed into the space between the bolt and the interior of the sleeve. After having been moved forwards and backwards 40.000 times the samples were taken out and weighed. By means of the diagrams it was found that if the metal hardness of the pairs (sleeve, bolt) remained the same, wear was proportional to the number of motions and to the hardness of the material of the samples. If degrees of hardness were different, both components of wear had to be taken into account. The experiment may also be carried out without sand with oil lubrication, but in that case it takes longer. There are 4 figures and 4 Slavic references.

ASSOCIATION: Engineering Institute AN USSR (Institut mashinovedeniya Akademii nauk SSSR)

AVAILABLE: Library of Congress

Card 2/2

MATVEYEVSKY, R M

28(5) PHASE I BOOK EXPLOITATION SOV/2632

Akademiya nauk SSSR. Institut mashinovedeniya
Treniye i imos v mashinakh: sbornik XII (Friction and Wear
in Machines; Collection 12) Moscow, Izd-vo AN SSSR, 1958.
354 p. Errata slip inserted. 4,000 copies printed.

Ed.: M.M. Khrushchov, Professor; Ed. of Publishing House:
M.A. Babichev, Tech. Ed.; Ye.V. Zelenkov, Editorial
Board; I.M. Gut'yar, Professor, A.K. D'yachkov, Professor,
V.P. Kuznetsov, Professor, A.D. Kur'ayna, Candidate of
Technical Sciences, N.N. Prudnikov, Candidate of Technical
Sciences, and M.M. Khrushchov, Professor.

PURPOSE: This book is intended for scientists, engineers, and
technicians in the field of machine manufacture and operation,
and for instructors in schools of higher education (vuzs).

COVERAGE: This collection of articles presents the results
of new investigations in the field of wear, friction, and
lubrication. The subjects discussed include structural
changes in the surface layer of metals in friction,
development of friction-brake materials, and theoretical
investigations in the field of dry friction and friction
with boundary and complete friction. For the abstract of
each article see the Table of Contents. A bibliography of
Soviet and non-Soviet materials on friction, wear, and lubri-
cation, 1954-55 prepared by Ye.O. Vii et al. is included.
Category 50.

Solubov, A.I. Effect of Heat on Fluid Friction in the Non-
loaded Lubricating Film 181
The author presents the results of an experiment
to determine the lubricating film-boundary temperature
in a coaxially arranged shaft and bushing at various
clearances and using two types of lubricating oil.
These results are compared with theory allowing for
the relationship of temperature and viscosity.

Solubov, A.I. Plane Steady Flow of a Viscous Incompressible
Fluid with a Variable Coefficient of Viscosity in a Bearing
205
Subsidiary phenomena of hydrodynamic theory of the
lubrication of thin-film bearings taking into
account the hyperbolic relationship between temperature
and viscosity.

Targin, D.P. Calculating Temperature Distribution Through-
out the Thrust Bearing Plate of a Hydrogenerator 224
The author presents a method for calculating
temperature distribution throughout the thrust-bearing
plate. According to the author, this method is
based on a numerical method of transient heat-condition
calculation which makes it possible to determine quickly
temperature distribution in bodies of intricate shape
and with complex boundary conditions. The method insures
a sufficient degree of accuracy.

Korovinitskiy, M.V. Possible Boundary Conditions of
Hydrodynamic Friction in a Four-ball Lubricant Testing
Machine 242
The author presents results of theoretical inves-
tigations of hydrodynamic lubrication regimes,

Korovinitskiy, M.V. Corrections for the Article "Stability
of the Equilibrium Position of a Pin on Lubricating Film"
(Published in the issue XI of "Treniye i imos v mashinakh",
pp. 364-373) 266

Matveyevskiy, R.M. Friction Conditions in Testing Oils
in a Four-ball Machine 288
The author presents results of experiments
conducted to determine the lubricating conditions
and type of friction existing between ball contacts
in four-ball testing-machines.

Lubarskiy, I.M., A.P. Lyubchenko, and V.G. Mesferenko. On
the Performance of Sulfolubed Lubricants 295
Results of an investigation of the performance of a
sulfurized lubricant containing niger oil with a
2-3 percent sulfur content are presented.

SOV/24-58-4-29/39

AUTHORS: Matveyevskiy, R. M. and Khrushchov, M. M. (Moscow)

TITLE: Importance of the Temperature Method of Evaluating the Lubricating Properties of Oils (Znachenie temperaturnogo metoda otsenki smazochnoy sposobnosti masel)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, pp 141-143 (USSR)

ABSTRACT: Reply to the comments of G. V. Vinogradov "On the Temperature Method of Evaluating the Lubrication Properties of Oils". The authors deal individually with the thirteen points raised by Professor G. V. Vinogradov. At the end they summarize their reply thus: Dealing separately with each of the points raised by Professor Vinogradov it can be seen clearly that the doubts raised by him are not justified. The new method was not developed as a competition to the methods based on the 4-ball machine and, therefore, there is no danger that this method will exclude other test variants at relatively high sliding speeds, methods which are known as well as methods which still have to be developed. The purpose of the new method was to

Card1/2

SOV/24-58-4-29/39

Importance of the Temperature Method of Evaluating the Lubricating Properties of Oils

fill an important gap in evaluating the anti-friction properties of oils under conditions of boundary friction which could not be carried out by any other method. It is necessary to accumulate data in various laboratories on the critical temperatures and other characteristics of the anti-friction properties of lubricating oils and only after such data are available will it be possible to evaluate the importance and the practical value of the new method. Quite apart from such work it will be necessary to continue work on extending the fields of application of the new method for elucidating certain problems raised by Vinogradov as well as various problems which have not been raised in his remarks.

Card 2/2

AUTHOR: ^VMateyevskiy, R.M., Candidate of Technical Sciences SOV/122-58-5-7/26

TITLE: Abrasive Wear of Steels in Rotary Reciprocating Motion
(Abrazivnyy iznos staley pri vozvratno-vrashchatel'nom dvizhenii)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 5,
pp 31 - 35 (USSR).

ABSTRACT: Laboratory and field tests were carried out at the Institut mashinovedeniya AN SSSR (Mechanical Engineering Institute of the Ac.Sc.USSR) to study the abrasive wear of steels used in the hinge components of tractor track chains. The results of laboratory tests carried out on a machine designed by Professor M.M. Khrushchov (described in "Zavodskaya Laboratoriya", 1957, nr 11) are reported. Sleeves of different steels are pressed against a standard pin (0.5% carbon steel of 550-640 Brinell hardness) with a pressure of 32.1 kg/cm². The pin diameter is 30 mm, the sleeve clearance is 1.1 mm. Sand containing 96% quartz was fed continuously through the clearance. The sleeve was oscillated about the pin at the rate of 260 c.p.m. A total of 20 000 cycles was applied. The wear was measured by the loss of weight of the sleeve and the pin. Parallel tests were carried out with and

Card 1/2

Abrasive Wear of Steels in Rotary Reciprocating Motion SOV/122-58-5-7/26

without abrasive. The results for 10 steels are shown in Figure 2. With abrasive, sleeve and pin wear are nearly equal; without abrasive, the pin wear is much smaller. In both types of wear, the best steel is the 12% chromium Kh12 steel (Brinell hardness 606-643). The much-used manganese steel (type LG13) with about 1.03% carbon, about 11.6% manganese and 0.75% silicon, treated to a Brinell hardness of 260-308 is least satisfactory among the steels tested under abrasive wear conditions. It has been stated that the hardness of the manganese steel increases with specific pressure. Tests at different pressures up to 200 kg/cm², both with and without abrasive, show an almost proportional growth of wear with pressure. The same is true of chromium steel (Figure 4). In all tests, air-cooling prevented a rise in temperatures. At all pressures, the chromium steel has about 1/4 of the wear of the manganese steel. There are 4 figures, 2 tables and 2 Soviet references.

Card2/2 1. Steel--Mechanical properties 2. Abrasion--Test results 3. Vehicle tracks--Materials

MATVEYEVSKIY, R.M.

Friction conditions during oil tests in four-ball machines. Tren.
i iss. mash. no. 12:288-294 '58. (MIRA 11:8)
(Lubrication and lubricants--Testing)

MATVEYEVSKIY, R.M., kand. tekhn. nauk.

Abrasive wear of steels caused by reciprocating rotary motion.

Vest. mash. 33 no. 5:31-35 My '58.

(MIRA 11:5)

(Steel—Testing)

(Mechanical wear)

18.8200 4016, 1452, 1583

33718
S/686/61/000/000/011/012
D207/D303

AUTHOR: Matveyevskiy, R. M.

TITLE: Comparative estimates of antifriction properties of some coatings on steel during dry friction at high contact stresses

SOURCES: Soveshchaniye po voprosam teorii sukhogo treniya i obrazovaniya chastits iznosa pri sukhom trenii. Riga, 1959, 163-175

TEXT: The author reports a study of antifriction properties of five coatings on steel, obtained by (1) oxidizing, (2) sulphiding, (3) phosphating, (4) heat treatment in MoS₂ paste, and (5) depositing a layer of "Ftorlon" lacquer after phosphating. Oxidation was carried out by the author: 60 min at 138 - 142°C in a bath containing 800 g/liter NaOH, 50 g/liter NaNO₃ and 200 g/liter NaNO₂. Sulphiding was carried out at NIIKhIMMASH: 180 min at 200°C in 75%

4

Card 1/3

33718
S/686/61/000/000/011/012
D207/D303

Comparative estimates of ...

KCNS and 25% Na₂S₂O₃. Phosphating was also done at NIIKhIMMASH: 40 min at 96 - 98°C in 22 g/liter 'Matef' salt solution. Coating with MoS₂ was carried out at TsIAM: 180 min at 300°C using 'Mali-kot' paste. The lacquer 'Ftorlon' was prepared according to the method supplied by the Leningradskiy institut polimerizatsionnykh materialov (Leningrad Institute of Polymeric Materials). Friction and wear were studied using a machine KT-2 (KT-2) with four balls of 8 mm diameter made of ШХ6 (ShKh6) steel of 60 - 61 R_c hardness;

X

more details of the apparatus are given in the author's earlier communication (Ref. 1: Chetyrekhscharikovaya mashina KT-2 dlya opredeleniya kriticheskikh temperatur plenki masla na metalle (Four Ball Machine KM-2 for Determining the Critical Temperature of an Oil Film on Metal), Izd. filiala VNITINF, subject class 32,2 1957, no. P-57-88). Pressures applied to the balls were 200 kg/mm² and the upper two balls rotated at 1 rpm. Two series of tests were carried out on each of the five coatings: (I) At room temperature for 30 min; (II) at 20, 170, 200 and 350°C for 1 min. At room temperature a low rate of wear and a low coefficient of friction were

Card 2/3

33718

S/686/61/000/000/011/012
D207/D303

Comparative estimates of ...

obtained for balls coated with MoS_2 while phosphating followed by coating with 'Ftorlon' gave even better results: There was no measurable wear and the coefficient of friction was lowest. The other three coatings showed high rates of wear at room temperature and their friction coefficient rose considerably during tests, but in each case coating reduced the coefficient of friction relative to that of bare steel. At higher temperatures the oxidized and phosphated coatings were no better than bare steel, but the other three coatings improved antifriction properties. The best all-round properties of low wear rate and low friction at room and higher temperatures were given by MoS_2 and phosphated 'Ftorlon' coatings. There are 6 figures, 1 table and 3 Soviet-bloc references.

ASSOCIATION: Institut mashinovedeniya AN SSSR (Institute of Machine Construction, AS USSR) X

Card 3/3

24(6), 15(5)

SOV/179-59-4-24/40

AUTHOR: Matveyevskiy, R. M. (Moscow)

TITLE: Comparative Tests of Some Plastics in Friction With and Without a Lubricant

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye tekhnicheskikh nauk. Me-
khanika i mashinostroyeniye, 1959, Nr 4, pp 150 - 152 (USSR)

ABSTRACT: This paper gives some results of tests of various plastics according to methods previously developed for judging the gliding properties of metallic bearing materials. The polyamides AK7, P68 and polycaprolactam; high- and low-pressure polyethylene and fluoroplast 4 were investigated. The tests were carried out on the modified machine of type KT-2 (Ref 1), with the steel ball rubbing against the plastic sample with and without a lubricant. Figure 1 shows the frictional scheme, and the execution of experiments is described. The endurance tests at room temperature are described, and the results are shown in a table: the maximum value of the friction coefficient, and the sliding character in the case of friction of steel against the plastics without a lubricant at $t=20^{\circ}$. To determine the influence of the temper-

Card 1/3

Comparative Tests of Some Plastics in Friction With and Without a Lubricant SOV/179-59-4-24/40

ature on the strength of the oil boundary layer in the friction of steel against plastics, the plastics mentioned were examined by the temperature method (Refs 2,3). D1-oil, with an addition of 0.1% stearic acid, was used as a lubricant. The test results are illustrated in diagrams in figures 4 and 5. Finally it is stated: 1) A difference was ascertained in the behavior of the plastics, which differed by their composition and physico-chemical properties, in friction against steel with and without a lubricant. The occurrence of friction jumps is characteristic of the friction of polyamides and polycaprolactam on steel without a lubricant, and in the case of lubricating with a nonpolar oil. In the friction of polyethylenes and of fluoroplast 4, the gradual gliding and the absence of jumps is characteristic of the work without a lubricant, and of lubrication with various oils. Fluoroplast 4 yielded the lowest friction coefficient in all cases. 2) An influence of a polar addition to the oil on the character of gliding and the amount of the friction coefficient in friction of steel on polyamides and polycaprolactam, as well as an absence of such influence in friction of steel on polyethylenes and fluoroplast 4, were ascertained. 3) In the

Card 2/3

Comparative Tests of Some Plastics in Friction With and Without a Lubricant SOV/179-59-4-24/40

temperature tests of the plastics with the lubricant D1, with a stearic-acid addition, critical temperatures for the destruction of the oil boundary layer were obtained for the case of friction of steel on polyamides and polycaprolactam (for each of the materials tested). No critical temperatures were obtained for the friction of steel on polyethylenes and fluoroplast 4. In heating up to the maximum test temperatures, almost equal to the softening point of the plastics, a quiet gliding and relatively low friction coefficients were observed. There are 5 figures, 1 table, and 3 Soviet references.

SUBMITTED: February 27, 1959

Card 3/3

MATVEYEVSKIY, R. M.

PHASE I BOOK EXPLOITATION SOV/5053

Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d, 1958.
Iznos i iznosostoykost'. Antifrictionsionnyye materialy (Wear and Wear Resistance. Antifriction Materials) Moscow, Izd-vo AN SSSR, 1960. 273 P. Krvata slip inserted. 3,500 copies printed. (Series: Itz: Trudy, v. 1)

Sponsoring Agency: Akademiya nauk SSSR, Institut mashinovedeniya. Resp. Ed.: M. M. Khrushchov, Professor; Eds. of Publishing House: M. Ye. Klebanov, and S. L. Orpik; Tech. Ed.: S. V. Polyakova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya, AN SSSR (Institute of Science of Machines, Academy of Sciences SSSR) contains papers presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in 5 main areas: 1) Hydrodynamic theory of lubrication and friction bearings (Chairman: Ye. M. Gut'yar, Doctor of Technical Sciences, and A. E. b'yachkov, Doctor of Technical Sciences); 2) Lubrication and Lubricant Materials (Chairman: O. V. Vlnogradov, Doctor of Chemical Sciences); 3) Dry and Boundary Friction (Chairman: B. V. Beryagin, Corresponding Member of the Academy of Sciences USSR, and I. V. Kragel'skiy, Doctor of Technical Sciences); 4) Wear and Wear Resistance (Chairman: M. M. Khrushchov, Doctor of Technical Sciences); and 5) Friction and Antifriction Materials (Chairman: I. V. Kragel'skiy, Doctor of Technical Sciences, and M. M. Khrushchov, Doctor of Technical Sciences). Chairman of the general assembly (on the first and last day of the conference) was Academician A. A. Bizgumravov. L. Yu. Pruzhanskiy, Candidate of Technical Sciences, was scientific secretary. The transactions of the conference were published in 3 volumes, of which the present volume is the first. This volume contains articles concerning the wear and wear resistance of antifriction materials. Among the topics covered are: modern developments in the theory and experimental science of wear resistance of materials, specific data on the wear resistance of various combinations of materials, methods for increasing the wear resistance of certain materials, the effects of friction and wear on the structure of materials, the mechanics of the sliding of metals, the effect of various types of lubricating materials on raising, abrasive wear of a wide variety of materials and components under many different conditions, modern developments in antifriction materials, and the effects of finish machining on wear resistance. Many personalities are mentioned in the text. References accompany most of the articles.

| | |
|--|-----|
| Poskin, V. S. Wear Resistance of Enamel Coatings of Vestn. mashinostr., No. 2, 1959, under the title Resistance of Enamel Coatings of Machine Parts) | 271 |
| Baruchin, A. I., and V. M. Zingundov. Increasing the Wear Resistance of Drill Bits (Vestn. mashinostr., No. 7, 1959) | 271 |
| Matveyevskiy, R. M. Laboratory Investigation of the Abrasive Wear of Steels in the Case of Alternating Rotary Motion (Vestn. mashinostr., No. 7, 1959) | 271 |
| Chesnov, A. I. Laboratory Investigation of Contact Fatigue of Rolling Surfaces (Tranizye i iznos v mashinakh, sb. IV. Izd. AN SSSR) | 271 |
| Busha, M. A. Causes of Damage to Crankshaft Bearings of Heavily Loaded Diesels (Vestn. mashinostr., No. 7, 1959) | 271 |

Card 12/13

83459
S/122/60/000/006/006/012
A161/A026

15-6000 also 2308

AUTHOR: Matveyevskiy, R. M., Candidate of Technical Sciences

TITLE: Investigation into the Friction of Plastics on Steel Without and With Lubricants

PERIODICAL: Vestnik mashinostroyeniya, 1960, No. 6, pp. 36-41

TEXT: Information is given on friction test results obtained at the Laboratory iznosostoykosti Instituta mashinovedeniya AN SSSR (Wear Resistance Laboratory at the Institute of Machines AS USSR), with methods developed previously for friction tests on metallic bearing materials. No special test techniques are yet established for plastics. Three groups of plastics were tested: 1) polyamides AK-7 (AK-7), П-68 (P-68) and polycaprolactam; 2) low-pressure polyethylene and ftoroplast-4; 3) plastics with thermo-reactive resin base. The KT-2 test machine previously described (Ref. 1) was adapted for testing plastics. The test consists in a hardened steel ball rotating under pressure on annular plastic specimen (Figure 1). Details of test techniques are given. Oil, oil with 0.1% stearic acid, distilled water, and tap water were tried for lubricants. Different

Card 1/3

83459

S/122/60/000/006/006/012

A161/A026

Investigation into the Friction of Plastics on Steel Without and With Lubricants

behavior was observed with different plastics, i.e. the additive mentioned effected the friction of polyamides and thermoreactive plastics at low speed, but did not effect the friction of polyethylene and ftoroplast; in tests with heated polyethylene and ftoroplast smooth sliding and a low friction coefficient were determined up to the maximum test temperature nearing the point of softening or destruction of these materials. Thermo-reactive plastics -AГ4 (AG-4), M7 (M7) and P49 (R49) in friction with steel, with A1 (D1) oil containing 0.1% stearic acid had a critical temperature limit at 100, 150 and 200°C respectively, and all of them became dark and brittle at more than 250°C. Polycaprolactam maintained smooth sliding up to 105°, the AK-7 to 120°, the P-68 to 130°. At 0.17 m/sec friction speed with oil as lubricant, the lowest and constant friction (0.045) was obtained with low-pressure polyethylene. Polyamides developed comparatively low friction (0.07-0.09). Ftoroplast-4 developed destructive wear under these conditions. In general it was concluded that the test methods used are applicable for determining the behavior of plastics with boundary lubrication and the effect of lubricants, but they do not provide sufficient

Card 2/3

83459
S/122/60/000/006/006/012
A161/A026

Investigation into the Friction of Plastics on Steel Without and With Lubricants

data for choosing the proper working conditions for plastics in plain bearings, bushings or other machine parts (i.e. which speeds are permissible under what load). Two metal bearing alloys were tested along with the plastics for comparison: 011C-4.4 (OTsS 4.4) consisting of 89.12% Cu, 3.85% Zn, 3.1% Pb, and 3.93% Sn, and 1AM-10-5 (TsAM-10-5), 85% Zn, 5% Cu, and 10% Al. As can be seen from Table (page 40), the critical temperature of some plastics was also the critical point for the TsAM-10-5, but the plastics are considerably less heat conductive than metals, so that their surface will heat faster than the surface of metal. The heat conductivity and mechanical strength of plastics can be increased by using them in combination with metal, e.g. in a thin layer on metal (glued on, sprayed or impregnated), or with a metal filler in the plastic. Candidate of Technical Sciences I. Ya. Al'shits (Ref. 4) at TsNIITMASH is experimenting with bearing bushings having a thin nylon film applied to the metal by glueing or by whirl spraying. Success with impregnated bearing materials is reported from England (Ref. 5). There are 9 figures, 3 tables and 5 references: 4 Soviet and 1 English.

Card 3/3

33009
S/663/61/000/000/003/009
D040/D112

158360 1583

AUTHOR: Matveyevskiy, R.M.

TITLE: Friction of some plastics investigated in a KT-2 machine with and without the use of lubrication

SOURCE: Plastmassy kak antifriktsionnyye materialy. Inst. mashinoved. AN SSSR. Moscow. Izd-vo AN SSSR, 1961, 22-42

TEXT: The article presents the data of friction tests of eight different plastics carried out at the laboratoriya iznosostoykosti (Wear-Resistance Laboratory) of IMASH AN SSSR (IMASH AS USSR), where the behavior of plastics as bearing materials is being studied. The article contains a detailed description of the test techniques and observations, and the data are presented in graphs and tables. The modified KT-2 (KT-2) test machine used in the experiments has been described (Ref. 1: R.M. Matveyevskiy, Chetyrekhsharikovaya mashina KT-2 dlya opredeleniya kriticheskikh temperatur plenki masla na metalle [KT-2 four-ball machine for determination of the critical temperature of oil films on metal], Izd. Filiala VNITINF, tema 32, no. P-57-88, 1957).

X

Card 1/4

33009
S/663/61/000/000/003/009
D040/D112

Friction of some plastics ...

In the tests, ring specimens of the plastics were subjected to friction by means of balls of hardened steel and balls of the same plastic as the specimen. The test temperatures varied between 20 and 350°C (depending on the heat resistance of different plastics). The lubricants used were nonpolar D-1 (D-1) oil, D-1 oil with 0.1% stearic acid, distilled water, and tap water. The tested plastics belong to three groups: (1) Polyamides - AK 7 (AK7), П 68 (P68) and polycaprolactam; (2) HD (ND) polyethylene and teflon; (3) Plastics on a base of thermoreactive resins with sulfite pulp for filler - AG 4 (AG4) with a phenol-formaldehyde resin base, M 7 (M7) with a phenol-melamine-formaldehyde resin base, and P 49 (R49) with a polyepoxy-polyamide resin base. Conclusions: (1) In dry friction the plastics with high maximum friction-factor values (up to 0.4-0.6) and irregular variations of these values; (b) teflon and ND polyethylene with low and constant friction factors. However, in the case of friction between similar specimens of ND polyethylene, the friction factor was relatively high (0.3-0.4) and its variation irregular, which is due to the adhesive property of this plastic. (2) The frictional behavior of plastics with different chemical compositions and

X

Card 2/4

33009
S/663/61/000/000/093/009
D040/D112

Friction of some plastics ...

physicomechanical properties is different according to whether polar or non-polar oil is used for lubrication. In friction between polyamides and steel, polar oil results in smooth sliding and a low and constant friction factor, but the polarity of the oil has no effect on friction between similar polyamides. This difference may be due to the absence of an oriented boundary layer on polyamides. In the case of friction between similar thermosetting plastics and friction between such plastics and steel, the polarity of oil has an effect. In friction between ND polyethylene and teflon and between these plastics and steel, the friction is low and the sliding smooth. The addition of a fatty acid to nonpolar oil does not reduce the friction factor value in friction between these plastics and steel. In friction between similar specimens of ND polyethylene or teflon, the polarity of the oil slightly reduces the friction factor. (3) Hot tests with D-1 oil containing 0.1% stearic acid revealed the existence of critical temperatures for the oil in friction between steel and thermosetting plastics and polyamides; there were no such critical temperatures in friction between steel and ND polyethylene and teflon. These critical temperature values are given in a table. Smooth sliding with a low friction factor was observed in the case

Card 3/4

33009

S/663/61/000/000/003/000

D040/D112

Friction of some plastics ...

of polyamides and thermosetting plastics at temperatures below the critical, but at temperatures higher than the critical, the nature and value of the friction were the same as in friction between these plastics and steel when oil without the additive was used. In the case of ND polyethylene and teflon, the sliding was smooth and the friction factor remained low and constant at temperatures up to the maximum, i.e. to the softening point of polyethylene or the destruction point of teflon. There are 17 figures, 3 tables, and 4 Soviet references. X

Card 4/4

S/883/62/000/000/017/020
E194/E155

AUTHORS: Matveyevskiy, R.M., and Lazovskaya, O.V.

TITLE: A procedure for determining the critical temperature of the lubricant film during friction of steel on a plastic material in machine type KT-2

SOURCE: Metody ispytaniya na iznashivaniye; trudy soveshchaniya, sostoyavshegosya 7-10 dek. 1960. Ed. by M.M. Khrushchov. Moscow, Izd-vo AN SSSR, 1962. 176-181

TEXT: Machine type KT-2 was developed in the Institut mashinovedeniya AN SSSR (Institute of Science of Machines, AS USSR). It is generally used with four-ball specimens to assess the lubricating properties of oils at high contact pressures by the temperature criterion. In testing plastic materials, strain of the contacting surfaces may distort the results, and as the contact pressures are very high in a four-ball machine it was decided to increase the contact surface by causing a ball to rotate against an annular specimen in which the inner edge of the ring is previously shaped by pressing into it a ball of the same size as that used in the test. With the particular test pieces and machines, the
Card 1/3

A procedure for determining the ...

S/883/62/000/000/017/020
E194/E155

specific pressure lies between 25 and 600 kg/cm², the upper ball runs at 1 r.p.m. (0.4 mm per sec) and the temperature in the oil bath which surrounds the specimen can be controlled in the range 20 - 400 °C. Tests are made over the temperature range without replacing the specimens. Changes in frictional force and bulk oil temperature are recorded. The width of the running belt in the ring is measured before and after test but does not usually alter in one-minute tests. The lubricating property of the oil is assessed by the critical temperature at which the smooth sliding first changes to stick-slip motion. At this temperature the coefficient of friction changes suddenly and approaches the value characteristic of dry friction. Cutting slots in the ring to remove wear debris from the sliding area had no effect. A study was made of the critical temperature as function of specific load for rubbing pairs which included relatively soft and hard materials. It was found that the critical temperature of the lubricant film is a constant over a certain range of specific pressures; in the friction of hardened steel against copper and copper alloys it remains constant up to 250 kg/cm²; and in the
Card 2/3

A procedure for determining the ...

S/883/62/000/000/017/020
E194/E155

friction of copper alloy against copper alloy, up to 40 kg/cm².
The critical temperature falls somewhat at higher specific
pressures, presumably because of plastic strain in the surface
layer of the softer of the two materials in contact, causing
local breakdown of the lubricant film.
There are 6 figures.

Card 3/3

S/711/62/015/000/0021
D207/D308

AUTHOR:

Matveyevskiy, R.M.

TITLE:

Effect of the temper temperature on the abrasive wear
resistance of steel X12Φ1 (Kh12F1)

SOURCE:

Akademiya nauk SSSR. Institut mashinovedeniya. Treniye
i iznos v mashinakh, v. 15, 1962, 131 - 136

TEXT: The effect of tempering of steel Kh12F1 (1.4 % C, 0.5 % Mn,
0.4 % Si, 12 % Cr, 0.8 % V) on its resistance to abrasive wear and
on its Vickers hardness were investigated at the Laboratory is-
nozostoykosti Instituta mashinovedeniya AN SSSR. (Wear Laboratory,
Institute of the Science of Machines AS USSR). The resistance to
wear was found on a machine X68 (Kh6B). A fixed vertical shaft of
steel 45 (Vickers hardness $H_v = 590 - 630 \text{ kg/mm}^2$ was placed in a cy-
lindrical sleeve of steel Kh12F1 - quenched from 1050°C in oil and
tempered at various temperatures). The sleeve was set in reciprocating
rotational motion and fine quartz sand (300 - 500 grains) was
poured continuously into the 1 mm gap between the shaft and the

Effect of the temper temperature ...

S/711/62/015/000/002/004
D207/D308

sleeve. Both the Vickers hardness H_v , and the resistance to wear $1/u$ (reciprocal of the loss of weight u due to abrasion), varied in the same way with the temper temperature T . As T was raised from 180°C , both H_v and $1/u$ fell to a shallow minimum at about $T = 400^\circ\text{C}$. Then both quantities rose to a maximum at $T = 550^\circ\text{C}$ where their values were the same as at $T = 180^\circ\text{C}$. Finally there was a rapid fall of both H_v and $1/u$ as T was raised to 650°C : at the latter temperature $1/u$ dropped nearly to half its value at $T = 180^\circ\text{C}$. There are 2 figures and 2 tables.

✓

Card 2/2

KHRUSHCHOV, M.M.; SEMENOV, A.P.; ~~MATVEYEVSKIY, R.M.~~; LAZOVSKAYA, O.V.;
BELOUSOV, N.N.; ~~KOLESNIKOVA, V.S.~~

Investigating lubricated and nonlubricated friction of anti-
friction bronzes and brasses. Tren. i izn. v mash. no.17:36-
70 '62. (MIRA 17:10)

MATVEYEVSKIY, R.M.

Investigating: the friction of some silico-organic plastics. Tren.
i izn. v mash. no.17:112-120 '62.
(MIRA 17:10)

SEMENOV, A.P.; MATVEYEVSKIY, R.M.; POZDNYAKOV, V.V.; KHRUSHCHOV,
M.M., prof., doktor tekhn. nauk, otv. red.; LETNEV, B.Ya.,
red.izd-va; MATYUKHINA, L.I., tekhn. red.

[Production technology and properties of fluoroplast-
containing antifriction materials; basic principles of
their manufacture] Tekhnologiya izgotovleniia i svoistva
soderzhashchikh ftoroplast antifriktsionnykh materialov;
osnovnye printsipy proizvodstva. Moskva, Izd-vo AN SSSR,
1963. 62 p. (MIRA 16:10)

(Friction materials) (Plastics)

MATVEYEVSKIY, R. M.

"The critical temperature of oil with point and line contact machines."
report presented at the Intl Lubrication Conf, Washington, D.C., 13-16 Oct 64.
Sr Sci, Lab of Wear Resistance, Inst for the Study of Machines, Moscow.

5209-00

EWP(d)/EWP(e)/EWP(f)/EWP(g)/EWP(h)/EWP(i)/EWP(j)/EWP(k)
T/EWP(l)/EWP(m) EWP(n)/EWP(o)/EWP(p)/EWP(q)/EWP(r)/EWP(s)
EWP(t)/EWP(u)/EWP(v)/EWP(w)/EWP(x)/EWP(y)/EWP(z)

ACCESSION NR: AT5022685

AUTHORS: Lazovakaya, O. V.; Matveyevskiy, R. N.

UR/0000/65/000/000/0312/0316

TITLE: Method of studying the antifriction properties of solid lubricants at high temperatures in a vacuum and in an inert gas

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya treniya i iznosa (Theory of friction and wear). Moscow, Izd-vo Nauka, 1965, 312-316

TOPIC TAGS: friction coefficient, solid lubricant, lubricant property, molybdenum disulfide, graphite, KT 2 friction apparatus, KT 4 friction apparatus, K 41 bonding material, K 43 bonding material, K 55 bonding material

ABSTRACT: To check the temperature limitations of solid lubricants, a friction machine KT-4 based on machine KT-2 (R. N. Matveyevskiy. Chetyrekhsharikovaya mashina KT-2 dlya opredeleniya kriticheskikh temperatur plenki masla na metalie. VINITIMP, 32, No. P-57-88, 1957) was developed at the laboratoriya iznosostoykosti, Gosudarstvennogo nauchno-issledovatel'skogo instituta mashinovedeniya (Wear Laboratory of the State Scientific Research Institute of Machine Operation). The working elements of the apparatus are four balls 8 mm in diameter shown in Fig. 1 on the Enclosure (the top ball is rotated at a speed of 1/3 rpm), a cup to hold three of the balls which can be loaded through lever 8, a heater, an evacuation and

Card 1/3

1-2569-66

ACCESSION NR: AT5022685

6

inert gas pressurization system, and auxiliary environmental and measuring equipment. A number of MoS₂ and graphite-based lubricants with different bonding materials were tested in argon and in a vacuum over a temperature range of 20-700C at a constant load of 1.43 kg and a constant speed of 1/3 rpm. It was found that in argon organic bonding materials (K-41, K-43, K-55) permitted operation to 600C before the friction coefficient rose drastically. Sodium silicate bonding was only effective to 500C. In a vacuum ($\approx 10^{-4}$ mm Hg), MoS₂ with a metallic bonding (galvanic silver) gave best results (still good at 700C, $f \approx 0.09$), while other bonding materials deteriorated after $\approx 500C$, i.e., f started increasing rapidly after decreasing steadily between 20 and 500C. Orig. art. has: 4 figures.

ASSOCIATION: Nauchnyy soviet po treniya i mazaniyu, AN SSSR (Scientific Committee on Friction and Lubrication, AN SSSR)

SUBMITTED: 18 May 65

NO REF 307: 003

ENCL: 01

OTHER: 005

SUB CODE: FP, ME

Card 2/3

L 2569-66

ACCESSION NR: AT5022685

ENCLOSURE: 01

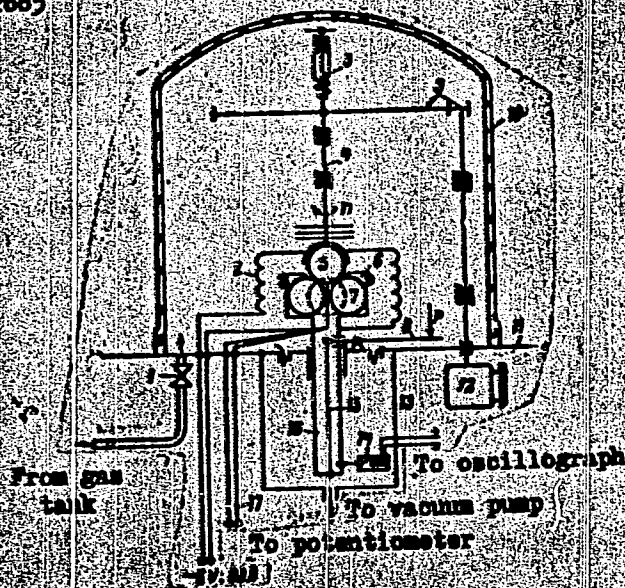


Fig. 1. Schematic of experimental apparatus

Card 3/3

1 24450-66 EWP(e)/EWT(m)/EWP(i)/I/ETC(m)-6 I.P.(c) WW/DJ/GS/RM/WH
 ACC NR: AT6008946 (A) SOURCE CODE: UR/0000/65/000/000/0065/0074

AUTHORS: Malyusovskiy, R. M.; Posdnyakov, V. V.; Semenov, A. P.

ORG: none

TITLE: Effects of fillers on the wear resistance of teflon during friction on steel without lubrication

SOURCE: Moscow. Institut mashinovedeniya. Plastmassy v podshipnikakh skol'sheniya; issledovaniya, opyt primeneniya (Plastics in friction bearings; research, experiment in application). Moscow, Izd-vo Nauka, 1965, 65-74

TOPIC TAGS: wear resistance, filler, friction, graphite, borium nitride, teflon, silver, lead, bronze/LD teflon, S-1 graphite, OF 10-1 bronze, SuS 6-12 bronze

ABSTRACT: The friction and wear characteristics of teflon (LD) with various fillers were investigated at the Wear Laboratory of the Machinery Science Institute (Laboratoriya iznosostoykosti Instituta mashinovedeniya) on the apparatus shown in Fig. 1. Graphite (S-1), borium nitride (powder), silver (powder), lead (granules), and bronze (OF 10-1 and SuS 6-12, shavings) were used as fillers (30% by volume). The specimens were pressed at 2000 kg/cm² and machined to 20-mm outside diameter, 10-mm inside diameter, and an 8-mm height. Curves of the coefficient of both friction and wear as a function of time were obtained for the different fillers (at 0.21 m/sec, 75 kg/cm²) and are presented. The results are also summarized in a table and are

Card 1/2

L 24450-66

ACC NR: AT6008946

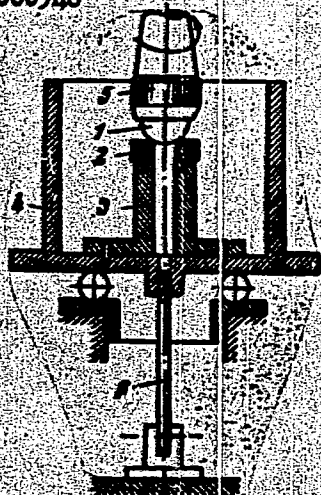


Fig. 1. Friction apparatus:
1 - ball; 2 - test specimen;
3 - support; 4 - cup; 5 - ball
holder; 6 - torque transducer.

compared with tables of friction properties obtained by other investigators (F. M. Chapman, Properties and applications of reinforced teflon. Machine Design, 1958, 30, 48). It was found that all additives decrease wear and that bronze is particularly effective. The reasons for the improvements are discussed qualitatively. Orig. art. has: 3 tables and 6 figures.

SUB CODE: 11

/ SUBM DATE: 31Jul65/

ORIG REF: Col/

OTH REF: 002

Card 2/200

L 03770-67 EWT(m)/T D.I

ACC NR: AP6019219

SOURCE CODE: UR/0380/66/000/002/0086/0090

AUTHOR: Matveyevskiy, R. M. (Moscow); Lazovskaya, O. V. (Moscow)

ORG: None

TITLE: Investigation of the effect of various technological factors and temperature on the antifriction properties of solid lubrication coatings based on molybdenum disulfide //2

SOURCE: Mashinovedeniye, no. 2, 1966, 86-90

TOPIC TAGS: antifriction material, solid lubricant, molybdenum disulfide, urea resin, metal friction, formaldehyde, *protective coating*

ABSTRACT: A report is given on tests of a solid lubricant based on molybdenum disulfide with a binder of ureaformaldehyde resin (VNII NP-212). // This study was undertaken at the Laboratory of Wear Resistance of the State Scientific Research Institute of Machine Science. // The coatings were tested on ShKh-6 steel subjected to various types of surface pretreatment. Lubricant coatings of various thicknesses with various ratios of binder to lubricant were studied. The experiments were done at room temperature with 8 mm ball specimens rotating at a rate of 1 rpm with an axial load of 11 kg which corresponds to an initial specific load of 200 kg/mm². Changes in the force of friction were recorded during testing. Four spherical specimens were rotated against each

Card 1/2

UDC: 621.892/536.21

47
46
B

L 03770-67

ACC NR: AP6019219

other in tetrahedral formation under three types of conditions: 1. solid lubricant only on the upper sphere with uncoated lower spheres; 2. a lubricating layer on the lower spheres with an uncoated upper sphere; 3. all four spheres coated. The proposed method may be used for determining the effect of various technological factors on the antifriction properties of solid lubricant coatings under conditions of high contact pressures at various temperatures. It was found that the most effective surface treatment for steel operating under friction conditions in air is parkerizing or sandblasting followed by parkerizing before coating with lubricant. Sandblasting is the preferable surface treatment for steel to be used under vacuum friction conditions. Parkerizing after sandblasting in these conditions impairs the strength of the lubricant coating at temperatures above 400°C. Variations in coating thickness between 5 and 15 microns has practically no effect on the coefficient of friction. Minimum binder concentration gives a minimum coefficient of friction for coatings of this type at room temperature. A coating based on molybdenum disulfide with silicone binder gives a low coefficient of friction in vacuum (10^{-4} mm Hg) up to 600°C. Orig. art. has: 6 figures.

SUB CODE: 11¹⁰/SUBM DATE: 29Jun65/ ORIG REF: 003

Card

2/2

ACC NR: AP7003636

(A)

SOURCE CODE: UR/0380/67/000/001/0108/0115

AUTHOR: Matveyevskiy, R. H. (Moscow); Lazovskaya, O. V. (Moscow)

ORG: none

TITLE: Temperature stability of antispalling coatings and protective layers in friction in various gas media

SOURCE: Mashinovedeniye, no. 1, 1967, 108-115

TOPIC TAGS: metal friction, antifriction material, ~~antiseize additive~~, antifriction coating, ~~coating thermal stability~~, ~~coating~~ friction coefficient, contact stress, protective coating, silver, cadmium, copper, thermal stability

ABSTRACT: The Wear Resistance Laboratory at the Institute of the Science of Machines has investigated the antifriction properties and behavior of various protective and antispalling coatings in friction under high contact loads at a sliding velocity of 0.01 cm/sec and temperatures ranging from 20 to 700C in a vacuum of 10^{-4} — 10^{-5} mm Hg or in an inert gas under a pressure of 1.1 atm. The friction was produced by rotating a ball of ShKh-6 ball-bearing steel 8 mm in diameter on top of three fixed identical balls. The rotating ball had a coating from various antifriction and antispalling materials, while the fixed balls had none; the contact load between the rotating ball and each fixed ball was 1.43 kg. Silver coating was found to have the lowest friction coefficient

UDC: 620.162.4

Card 1/3

ACC NR: AP7003636

in the widest temperature range: from a value of 0.25 at 20C, it gradually decreased to 0.08 at 500—550C and then sharply increased again to 0.25 at 700C. Cadmium coating had a constant friction coefficient of 0.22 in the 20—200C range, but it increased sharply to 0.32 at 250C. The temperature-induced changes in the friction coefficient of the copper coating were analogous to those of the silver: a gradual increase from 0.4 at 20C to 0.12 at 550C followed by an increase to 0.14 at 700C. The nickel coating had a friction coefficient of 0.4—0.6 and exhibited intermittent sliding in the entire investigated temperature range. The friction coefficients of molybdenum disulfide film over silver, copper and nickel coatings decreased to 0.07—0.1 in the 20—500C range, and that of cadmium coating to 0.1 at temperatures up to 200C. An MoS₂-base VNII NP-229 coating (sodium silicate film-forming agent) and a VNII NP-213 coating (silicoorganic film-forming agent) had a friction coefficient of about 0.012 at 20C, which slowly decreased to about 0.005 at 500C; the coatings failed at temperatures above 500C and 600C, respectively. Soft protective coatings on steel formed by parkerizing or sulfiding ensure friction coefficients of the order of 0.15—0.25 in vacuum at temperatures up to 500C; at higher temperatures, the coatings decompose. Electroless nickel plating of steel ensures in vacuum a friction coefficient of 0.3—0.4 at temperatures up to 300C; at higher temperatures the friction coefficients increase sharply. Borided layers on hardened steel had particularly stable friction coefficients (about 0.2) in vacuum in the entire 20—700C range.

Card 2/3

ACC NR: AP7003636

A borided layer on annealed steel had higher but significantly more temperature-dependent friction coefficients., Orig. art. has: 8 figures and 1 table. [MS]

SUB CODE: 11, 13/ SUBM DATE: 27Nov66/ ORIG REF: 010/ OTH REF: 008/
ATD PRESS: 5115

Card 3/3

MATVEYEVSKIY, V.I.

Utilizing the waste heat of steam engines for drying grain.
Nauka i pred.op. v sel'khoz. 7 no.8:44-45 '57. (MLRA 10:9)

1. Starshiy prepodavatel' Altayskogo sel'skokhozyaystvennogo
instituta.

(Grain--Drying)

MATVEYEVSKIY, V.I.

Determining the expenditure of fuel during engine testing. Trakt.
i sel'khoz mash. no.3:41 Mr '65. (MIRA 18:5)

1. Altayskiy sel'skokhozyaystvennyy institut.

AUTHOR: Matveyko, A.P., Engineer SOV-118-58-9-11/19

TITLE: Reducing the Amount of Labor in Lumber Trailing Operations by Means of Winches (Snizheniye trudoyemkosti pri trelevke lesa Rebedkami)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1958, Nr 9, pp 32-34 (USSR)

ABSTRACT: Examining lumber trailing operations in swampy timber cutting areas of the Belorussian SSR, the author draws attention to the low labor efficiency. Detailed investigations have been carried out at the Luninets, Gantsevichi and Turor lespromkhoz to find out the best labor saving method for lumbering operations. Consequently, the following technological scheme was recognized to be the best for swampy timber cutting areas: for the cutting of trees the motor saw "Druzhba" should be used; the trimming of branches should be done by manual labor; trailing should be carried

Card 1/2

SOV-118-58-9-11/19

Reducing the Amount of Labor in Lumber Trailing Operations by Means of Winches

ou: by applying the semi-suspended method (polupodvesnyy sposob) by using a supporting cable with dual TL-4 winches; the loading on the rolling-stock by means of the same winches; the carting of lumber out of the forest on a narrow gauge railroad. There are: 1 photograph, 1 graph, and 1 table.

1. Lumber industry--USSR
2. Cutting tools--Applications
3. Personnel--Performance

Card 2/2

ACCESSION NR: AP4030381

S/0145/64/000/002/0160/0173

AUTHOR: Balandin, G. F. (Candidate of technical sciences, Docent); Gini, E. Ch. (Candidate of technical sciences); Matveyko, Yu. P. (Aspirant); Sokolov, Ye. A. (Engineer); Stepanov, Yu. A. (Candidate of technical sciences, Docent); Yakovlov, Yu. P. (Aspirant)

TITLE: The role of technological factors in producing strength in thin walled castings

SOURCE: IVUZ. Mashinostroyeniye, no. 2, 1964, 160-173

TOPIC TAGS: mechanical property, thin walled casting, aluminum, magnesium alloy, mold, microstructure, nonuniform porosity, hardening process, hexachloroethane, acetylene

ABSTRACT: The mechanical properties of large-scale thin-walled castings used as panels were investigated at the MVTU foundry. Sample panels, 370 mm by 35 mm and 4 to 1.5 mm in thickness, were cast from various aluminum and magnesium alloys (e.g. AL2, AL4, AS15, ML15, etc.). Before pouring the material, the mold was covered by hexachloroethane (C₂Cl₆) for aluminum alloys and with acetylene carbon black for the ML15 alloy. The aluminum alloy specimens had a strength within the GOST 2685-55 standard.

Card 1/2

ACCESSION NR: AP4030381

Lowering the specimen thickness to below 2 mm revealed a definite reduction in mechanical properties of the cast. The microstructure of the panels showed no observable effects caused by minimum or maximum superheat conditions. However, there was a noticeable increase in nonuniform porosity for very thin-walled specimens cast from V15 and Al19 alloys. There was considerable scatter in the measured strength of various specimens, caused primarily by a nonuniform temperature distribution in the casting during the pouring of the alloy in the mold. It is shown that the melt temperature distribution in the mold, the method of pouring the melt in the mold, and the method of feeding the alloy during the hardening process are significant factors contributing to the nonuniformity between specimens and within the given specimen itself. A detailed comparison is made between casting in sandstone molds and a pressing-out method to enhance uniform temperature distributions in the molten alloy. In general, the two methods yield similar data scatter in the strength of the casting. Orig. art. has: 7 figures

ASSOCIATION: none

SUBMITTED: 04Mar63

SUB CODE: MM

NO REF SOV: 022

ENCL: 66

OTHER: 010

2/2

Card

ACC NR: AM6029198

Monograph

UR/

Stepanov, Yuriy Aleksandrovich; Gini, Enriko Chel'sovich; Sokolov, Yevgeniy Alekseyevich; Matveyko, Yuriy Pavlovich

Casting of thin-walled structures (Lit'ye tonkostennykh konstruktsiy) Moscow, Izd-vo "Mashinostroyeniye", 1966. 254 p. illus., biblio. Errata slip inserted. 4500 copies printed.

TOPIC TAGS: panel casting, pressure casting, metal casting

PURPOSE AND COVERAGE: This book is intended for engineering and scientific research workers concerned with problems of casting. It may also be useful to students of schools of higher education specializing in machine-building. The book presents results of work completed by the authors at the foundry laboratory of the Moscow Higher Technical School im. Bauman (MVTU) in connection with casting of thin-wall structures. On the basis of theoretical concepts of the interaction between the casting and the mold, various Soviet and non-Soviet studies concerning the theory of producing thin-wall panel castings are summarized.

TABLE OF CONTENTS [Abridged]:

Foreword -- 3

Part I. Filling the Mold

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001033010011-1

Card 1/2

UDC: 621.74.032

ACC NR: AM6029198

- Ch. I. General information on panel castings -- 5
 - Ch. II. General aspect of the problem of filling the mold -- 28
 - Ch. III. Determination of conditions of casting under pressure -- 46
 - Ch. IV. Determination of conditions of casting under low pressure -- 75
 - Ch. V. Determination of conditions of casting under rising pressure -- 86
- Part II. Hot Cracks -- 119
- Ch. VI. Formation of hot cracks in panel castings -- 119
 - Ch. VII. Interaction of forces between the panel casting and the mold -- 145
 - Ch. VIII. Methods of eliminating hot cracks in panel castings -- 169
- Part III. Technology of Casting Thin-Wall Panels
- Ch. IX. Mechanical properties, precision, surface smoothness -- 189
 - Ch. X. Practices in casting parts of thin-wall panels -- 223

References -- 248

SUB CODE: 13/

SUBM DATE: 11Feb66/

ORIG REF: 086/

OTE REF: 036/

Card 2/2

MATVEYKOV, G. P., Candidate Med Sci (diss) -- "The functional state of the liver in patients with chronic tonsillitis". Minsk, 1959. 13 pp (Minsk State Med Inst), 150 copies (KL, No 24, 1959, 151)

MATVEYKO, G.P., kand.med.nauk; BRODSKAYA, F.P.

Evaluation of a study of uropepsin. Zdrav.Bel. 8 no.7:51-53 JI '62.
(MIRA 15:11)

1. Iz kafedry gospital'noy terapii (zav. prof. G.Kh.Dovgyallo)
Minskogo meditsinskogo instituta i Gomel'skoy oblastnoy bol'nitsy.
(UROPEPSIN)

ZHAVRID, V.M.; MATVEYKOV, G.P.; KOKOSH, A.A.

Changes in the cardiocascular system in chronic tonsil-
litis. Zdrav. Bel. 8 no.6:10-12 Je'62. (MIRA 16:8)

1. Iz kafedry gospital'noy terapii (zav. - prof. G.Kh.
Dovgyallo) Minskogo meditsinskogo instituta.
(TONSILS--DISEASE) (CARDIOVASCULAR SYSTEM--DISEASES)

MATVEYKOV, G.P., kand.med.nauk

Blood prothrombin in chronic tonsillitis. Zhur. ush., nos. 1 gerl.
bol. 22 no.1:33-35 Ja-F '62. (MIRA 15:5)

1. Iz kafedry gosptal'noy terapii (nav. - prof. G.Kh.Dovgyallo)
Minskogo meditsinskogo instituta.
(PROTHROMBIN) (TONSILS--DISEASES)

MATVEYEV, P.I.

Adequate selection, assignment and training of personnel are an indispensable condition for the fulfillment of the seven-year plan. Zhel.dor.transp. 42 no.3:3-9 Mr '60. (MIRA 13:6)

1. Zamestitel' ministra putey soobshcheniya.
(Railroads--Employees)

MATVEYTSYEV, P.I.

Better regulation of wages is an important economic and political
measure. Zhel. for. transp. 42 no.10:3-9 0 '66. (MIRA 13:10)

1. Zamestitel' ministra putey soobshcheniya.
(Railroads--Salaries, pensions, etc.)

MATVEYTSEV, P.I.

Creators of technical progress. Zhel.dcr.transp. 46 no.11:3-9 N '64.
(MIRA 1891)

1. Zamstitel' ministra putey soobshcheniya SSSR.