1. METELITSYN, I. I.

2. USSR (600)

4. Physics and Mathematics

7. General Problem of Stability of Motion, A. M. Lyapunov (Liapounoff). ("Classics of Natural Science," Moscow-Leningrad, State Technical Press, 1950). Reviewed by I. I. Metelitsyn, Sov. Kniga No. 7, 1951.

9. [redacted] Report U-3081, 16 Jan. 1953, Unclassified.

MITELITSYN, I.I.

Stability of the motion of an automobile. Ukr.mat.zhur. 4 no.3:323-338 '52. (MLRA 6:10)

(Stability of automobiles)

USSR/Physics - Gyroscopic Stabilization, Servomechanics 1 Sep 52

"Problem of Gyroscopic Stabilization," I. I. Metelitsyn

"Dok Ak Nauk SSSR" Vol 86, No 1, pp 31-34

Proposes several theorems which permit one to answer posed questions. For example, whether more practical criteria of stability of motion of mech system than those of Lagrange, Kelvin, Routh, and Zhukovskiy (that the roots of the characteristic eq possess neg real parts) can be found, besides the criteria of Hurwits, can be found, besides the criteria of Hurwits, 234T101

Kyquist, and Mikhaylov. States that the enumerated theorems are easily illustrated in the case of well-known gyroscopic devices. Submitted by Acad M. V. Keldysh 19 Jul 52.

234T101

METELITSYN, I. I.

1. METELITSYN, I. I.

2. USSR (600)

4. Motion

7. Stability of the motion of an automobile; conclusion. Ukr. mat. zhur. 5, No. 1, 1953.

The beginning article appeared in Vol.4, No.3, 1952 of this journal. In this concluding article the author derives and solves the eqs describing the motion of an automobile with a three-wheel mass, and establishes the stability of a moving automobile with rigid wheels. Received Aug 50. 250T57

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

METELITSYN, I.I.

Metelicyn, I. I. On elast[…] impact. Ukrain. Mat. Ž. 6, [1]5[1]47-175 (1954). (Russ[…]n) 1 – F/W

The author discusses in [..]reat detail previous work on the problem of impact and [i]n particular, the discrepancies between the results, due [to] Hertz and St. Venant. In the light of experimental evi[de]nce, both these theories are often unsatisfactory, bec[au]se they do not adequately allow for the kinematic [c]onditions which take place at the instant of impact. The author develops a new approach, based on impul[se]s, and introduces the concept of loss of kinetic energy. H[e] also suggests that, depending on the material of the bod[ie]s, the description of the later stages of the process may [n]ot be justifiably based on the classical theory of elastic[it]y, since the occurring strain rates may, for example, [le]d to plastic deformations. In defense of his approach, the author refers to the invariably occurring change[s] in temperature which explain his idea of loss of kinetic e[n]ergy.

Comparison of results o[bt]ained in this paper with those from St. Venant's theor[y] are given for the cases of impact of a rod on a rig[id] wall, of a rod on another rod with one fixed end and o[f] two free rods. It is suggested that the amount of dissi[pa]ted energy would have to be determined by experime[nt] which might go some way towards explaining the m[ec]hanism at the time of impact.

J. R. [M.] Radok (Providence, R.I.).

AUTHOR: Metelitsyn, I. I. (Moscow) 24-11-14/31

TITLE: Principle of minimum forcing in the shock theory. (Printsip naimen'shego prinuzhdeniya v teorii udara)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.11, pp. 105-115 (USSR)

ABSTRACT: The Gauss principle is utilised in cases when the movement is studied of a mechanical system with finite forces. For "impact forces" which act for a very short time, the Gauss function Z and the respective variational equation $\delta Z = 0$ change. The author attempts to derive the variational equation of the impact theory by the direct method, without utilising the Z function. An expression is given for the degree of "forcing" Z' and it is stated that the equation $\delta Z' = 0$ enables the determining of the speed occurring during the impact, assuming the initial speeds and impulses as constant. In this case, the fundamental equation of the shock theory can be written in the form expressed by Eq.(1.1), p.106. By making various assumptions on the physical properties of the colliding bodies it is possible to derive from Eq.(1.1) all the known results of the shock theory. The possibility of using the same general approach

Card 1/3

Principle of minimum forcing in the shock theory. 24-11-14/31

for solving a variety of differing problems facilitates the solution of new problems which require a new formulation. . . . It is shown in this paper what form the equation $\delta Z' = 0$ assumes for deforming bodies. The equation of the impact theory in generalised coordinates $q_1 \ldots, q_n$ can be read thus:

$$\frac{\partial T'}{\partial q_k} = Q_k' \quad (k = 1, \ldots, n)$$

According to the Saint Venant theory, an increase in the modulus of elasticity E and a decrease in density bring about unlimited rise in the stresses under otherwise equal conditions, whilst according to the new theory the stresses rise at first to a certain maximum and then decrease. Therefore, an equal permissible stress for an equal shock load can be obtained in a plate with low as well as with high values of $\sqrt{E/\rho}$ if a material is chosen which has a higher modulus of elasticity and a lower density. For inelastic bodies the assumed hypotheses and method are applicable, i.e. it can be assumed that for the first phase of the shock the

Card 2/3 Eq.(4.1), p.107, expressing the relation between the stress

impulses and the components of the deformation speed tensor is applicable and also all the conclusions derived from the variational equation (1.1), p.106, for the case of $\delta Z' = 0$. Depending on the intensity of the internal impulses, the first phase may end either with destruction or with a change in the mechanical properties of the colliding bodies or solely with a slight increase in the temperature as a result of loss in the kinetic energy. For the second phase the same equations are applicable which describe the movement of the colliding bodies for finite forces (the equations of the theory of plasticity, of the elastic-viscous body etc.). If for the given problem an accurate or an approximate solution of these equations is found which contains arbitrary constants, the latter can be determined from the condition of the minimum of the "forcing" function.

There are 2 figures and 10 references, 7 of which are Slavic.

Card 3/3

SUBMITTED: August 22, 1956.

AVAILABLE: Library of Congress.

SOV/179-59-1-1/36

AUTHOR: Metelitsyn, I. I. (Moscow)

TITLE: Gyroscopic Systems with a Non-ideal Contact (Giroskopicheskiye sistemy s neideal'nymi svyazyami)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 1, pp 3-9 (USSR)

ABSTRACT: It can be stated generally that in the case of dry friction the tangent F_s, being a component of a reaction R_s, can be expressed as:

$$|F_s| \leqslant f |N_s|$$

where N_s - normal component of reaction, f - coefficient of friction. Lagrange's equations can be employed for determining the reaction R_s. The case can be shown of a system where one of the elements remains in contact at the supporting point P and N, F', F" are the normal and the two tangent components of the reaction R. The system has n degrees of freedom and its position is determined by the coordinates q_n. When the velocity of the point P is v its components v_n, v'_n, v''_n along the normal and the tangents of the reaction

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Gyroscopic Systems with a Non-ideal Contact

can be found from Eq.(1.1) and the work of reaction δA from the expression (1.2). The equation of motion of the system can be shown as Eq.(1.3). When the point P does not slide, then $V = 0$ and the kinematic relations (1.4) are included in Eq.(1.3). The Eqs.(13) and (14) will give the solution in the ideal conditions, i.e. when the friction is not performing work. In the case of friction in boring and rolling, the components of the angle velocity $\bar{\omega}$ can be expressed as Eq.(1.5), the forces of resistance by Eq.(1.6) (f_1, f_2 - coefficients of friction of boring and rolling respectively) and the work as Eq.(1.7). The last equation can be applied in the equation of motion (1.3) as it is shown in Eqs.(2.1),(2.2) and (2.3), where a_{ik} - function of coordinate q_h . From this the following is derived: 1) Reaction of an ideal contact depends only on the instantaneous kinematic state of the system with the active forces and it is not affected by the acceleration $\ddot{q}_h$, i.e. reaction can be defined at any instant with no motion considered.

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Gyroscopic Systems with a Non-Ideal Contact

2) If the forces are those along coordinates, the reaction does not change its value with change of sign of velocities. 3) In the case of cyclic coordinates and appropriate velocity w_k (large) being constant, then the terms containing small velocities of the right hand side of Eq.(2.2) can be ignored. Then the reaction of ideal contact can be compared with gyroscopic forces. 4) If there are small vibrations, then the reaction will depend only on the coordinate q_h provided the active forces are the functions of coordinates. All the above is true when the point P does not slide on the resisting surface, i.e. Eq.(2.4) is satisfied. Otherwise (Eq.(2.4) not satisfied) the forces of friction $|F|$ will be equal to $f|N|$ and Eq.(3.1) takes place while Eq.(1.3) will take the form of Eq.(3.2), so that only Eq.(3.3) will remain of Eq.(1.4). The Eqs.(3.2) and (3.3) sufficiently describe the motion of the system when the conditions Eq.(3.1) are satisfied. Then: (a) the normal of reaction N and forces of friction F' and F" are not affected by acceleration, (b) if an additional force Q_h depends on the coordinates, the normals of the reaction $|N|$ change their value together with the change of sign of velocities, i.e. force of friction changes its value

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and direction, (V) when the coefficient of friction is small, it is possible to predetermine the normals in order to add them to Q_h (Eqs.(4.1) and (4.5)). In this case, if the velocities q_h^* change their signs, the values of both the reaction and the friction remain the same, (g) in the case of both small vibrations and coefficients of friction, the normals remain constant or depend on the coordinates, (d) if small vibrations are considered in relation to an established motion, then the reaction can be expressed as a linear function of velocity, (e) the sign of $\varepsilon = \pm 1$ in Eq.(3.2) should be such that $|N|>0$ and $N = \varepsilon|N|$. However, the case may occur when this is not possible (Ref.1). Then the inequality $|N|>0$ is upset and $v_n \neq 0$ (Eq.1.1) and:

$$a_{11}\ddot{q}_1 + \ldots + a_{1n}\ddot{q}_h = \dot{v}_n - \sum_h a_{1h}\dot{q}_h$$

is obtained instead of Eq.(3.3). Thus the system will break

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contact. As an example, the simple gyroscopic system with the two degrees of freedom and a vertical axis is considered (Fig.1). The normals N_1 and N_2 and their respective forces of friction F_1 and F_2 can be calculated from Eq.(6.1) and the sum of moments equal to $2frH|\dot{\alpha}|/2\ell$. This moment has the direction opposite to that of the angular velocity $\dot{\alpha}$, therefore it can be expressed as Eq.(6.2). However, N_1 and N_2 will not be equal to each other when the weight of the gyroscope is considered (Eq.6.3). If $1/2\ mg > 1/2\ H\dot{\alpha}/\ell$, then the sum of moments will be:

$$- fmgr \qquad (6.4)$$

but in the case of $1/2\ mg < 1/2\ H\dot{\alpha}/\ell$, this moment will be as shown in Eq.(6.2). The moment characteristic is shown in Fig.2. The vibrations of the pendulum with a gyroscope can be calculated from Eqs.(6.5) and (6.6). Different calculations should be performed for the gyroscope with a horizontal axis (Eqs.6.7 and 6.8) (Fig.3). The damping of vibrations in this case will be described by the expression:

Gyroscopic Systems with a Non-Ideal Contact

$$\frac{d}{dt}(T + V) = -|\alpha'| fr \sqrt{\left(\frac{mg}{2}\right)^2 + \left(\frac{H\alpha'}{2r}\right)^2} \quad \text{and} \quad T + V > 0$$

and the energy of the system will be decreasing. In order to exclude the gravitational force from the systems, the gyroscope is placed in a rolling frame (Fig.4). Then the reactions N_1 and N_2 and the moment of forces of friction will be:

$$|N_1| = |N_2| = \left|\frac{H\beta'}{2r}\right|, \quad M = -2fr\frac{H\beta'}{2r} = -f\frac{r}{r}H\beta'$$

and the equation of motion:

$$B\beta' + \frac{frH}{r}\beta' = H\alpha' \quad .$$

If the frame is subjected to a vibrating motion, then the

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Gyroscopic Systems with a Non-Ideal Contact

amplitude of the gyroscope will be:

$$\beta_o = \frac{\alpha_o \mu / B}{\sqrt{(k^2-\mu^2)+4h^2\mu^2}} \qquad \left(2h = \frac{frH}{B\ell}\,,\ k^2 = \frac{C}{B}\right)$$

where α_o - amplitude and μ - frequency (angle) of frame vibrations. There are 4 figures and 2 Soviet references.

SUBMITTED: June 27, 1958.

Card 7/7

METELITSYN, Ye., starshiy leytenant

We are always alert. Komm.Vooruzh.Sil 2 no.19:74-76 O '61. (MIRA 14:9)

(Russia--Armed forces--Political activity)

METELITSYNA, G.G., inzh.; PLAKIDA, M.E., kand.tekhn.nauk.

Wave height developed at steep sloping walls. Rech.transp. 16 no.9:25-26 S '57. (MIRA 10:12)
(Breakwaters) (Waves)

METELITSYNA, G.G., inzh; PLAKIDA, M.E., kand.tekhn.nauk

Pressure and splashing height of waves against steep walls. (MIRA 11:12)
Trudy TSNIIEVT no.15:35-48 '58.
(Waves) (Shore protection)

PLAKIDA, M.E., kand. tekhn. nauk; METELITSYNA, G.G., inzh.

Wave pressure on sharply inclined walls. Rech. transp. 17 no.12:42-44 D '58. (MIRA 12:1)
(Waves) (Shore protection)

METELITSYNA, G.G., inzh.

New method of determining wave pressure on vertical reservoir walls. Rech. transp. 18 no.4:41-42 Ap '59. (MIRA 13:1)

(Hydrodynamics) (Retaining walls)

PLAKIDA, M.E., kand.tekhn.nauk; METELITSYNA, G.G., inzh.

Wave pressure against steep walls. Trudy TSNIIEVT no. 19:5-17 '60. (MIRA 14:5)

(Waves) (Piers)

METELITSYNA, G.G., inzh.

Stability of protecting blocks at the base of vertical structures. Trudy TSNIIEVT no. 19:18-36 '60. (MIRA 14:5)
(Piers)

METELITSYNA, G.G., inzh.

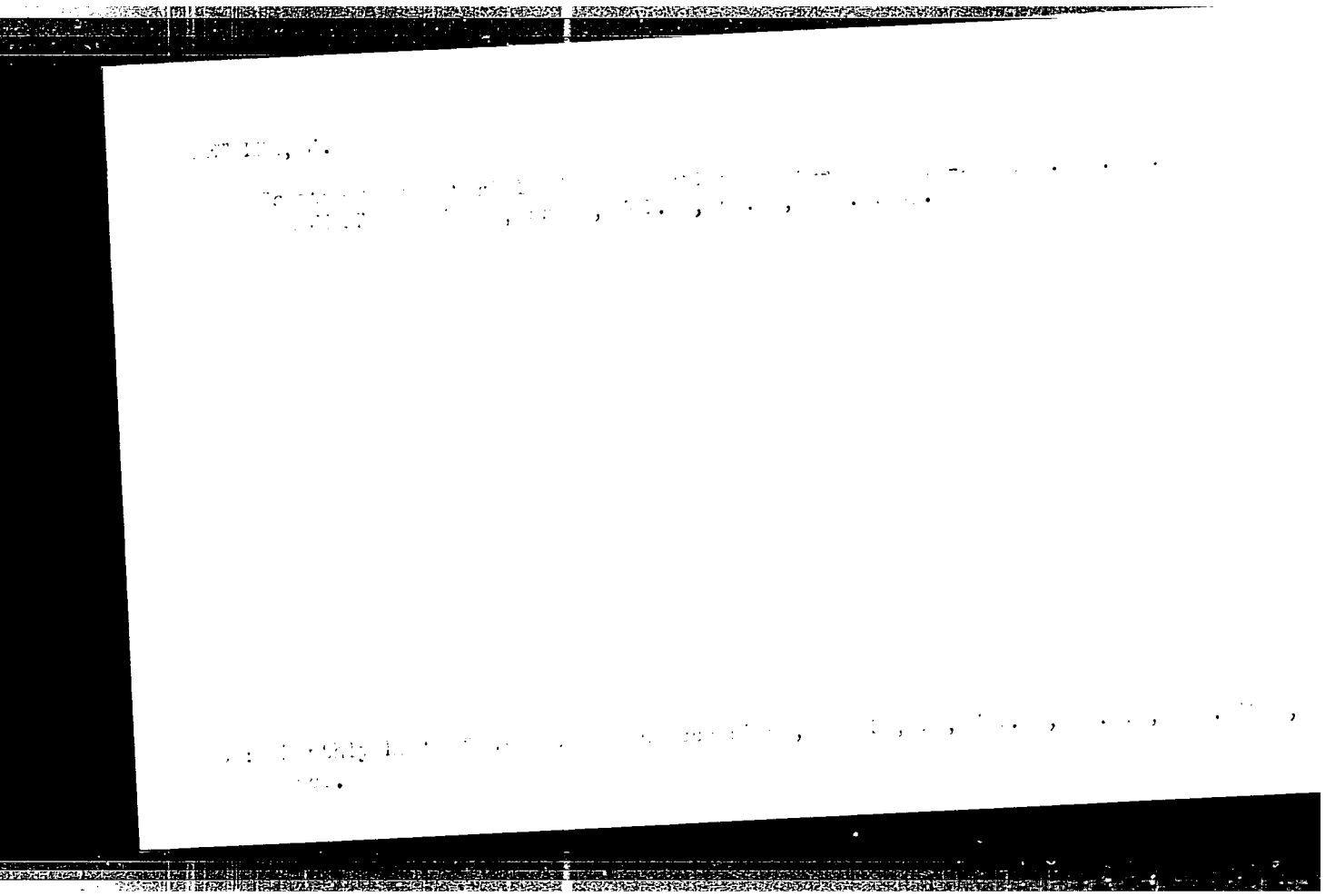
Studying the pressure of a standing wave against a vertical wall. (MIRA 14:5)
Trudy TSNIIEVT no. 19:37-50 '60.
(Waves) (Piers)

PLAKIDA, M. E.; METELITSYNA, G. G.

"Erosion des fonds de sable devant des murs verticaux et demi-verticaux soumis a l'action de la houle."

report submitted for Mtg, Hydrotechnique Soc. de France, 11-13 Jun 58, Vernon.

Laboratoire d'onde de I'I. C.R.S.T.E., Moscow.



APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033710020-4"

Metelka, Josef. On certain finite groups constructed from
Coxeter transformations of the 1st to 5th degrees

Source: Mathematical Reviews, Vol 10, No. 1

METELKA, Josef

300

Metelka, Josef. Sur quelques groupes finis, composés des transformations de Cremona du 1er et du 5ème ordre. Acta Fac. Nat. Univ. Carol., Prague no. 174, 11–16 (1947). (Czech and French)

This paper summarizes the results of an investigation into the following problem: to find every possible case of a set of six points in the plane which are the principal points of two or more Cremona involutions of order 5 and of the first species, and to find the finite group of Cremona transformations arising from each such case. [The corresponding problem for involutions of the second species was treated by Bydžovský.] Six cases in all are found; and the associated groups, of orders 4, 6, 12, 24, 36, 120 respectively, are composed of the relevant involutions of order 5 and of various sets of cyclic collineations. In each case the invariant curves and the structure of the group are investigated.

[ ] Semple (London)

Source: Mathematical Reviews, Vol 9 No. 10

Metelka, Josef

Metelka, Josef. Trois chap... sur les ... monoidales. Rozpr...
10, 57 pp. 1948
L'auteur appelle ...
nelle dans laquelle ...
plans de ... ont ...
autres ... és ...
infiniment ... sans ...
Leurs nombres ...
variété ... transi...

On peut aussi ...
comme transform... ...
hyperplan qui ...
inverse est égal...
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tions monoidales ...
de cette étude que ...
le produit d'un ...
quadratiques. Dans ...
étudie les transforma...
de période paire, ...
graphies ...tiques et ...

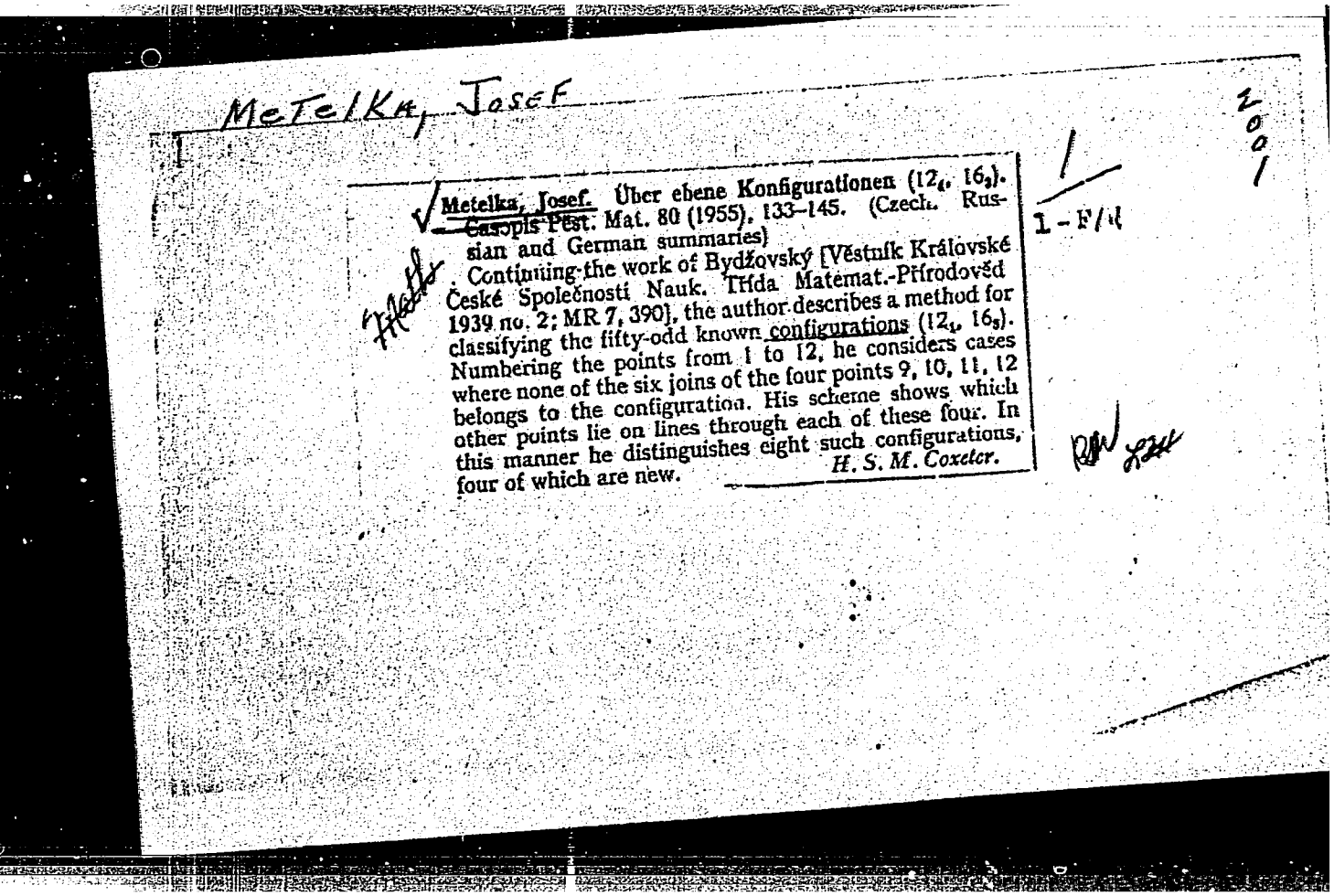
Source: Mathematical Reviews, Vol ... No. 5

METELKA, JOSEF: Three Chapters on "Monoidal" Transformation

MITEL'KA, Iosif.

Remarks on the article of D.D.Mordukhai-Boltovskii "Three-dimensional and four-dimensional analogues of Pascal's theorem." vol.8 no.2(54), 1953, p. 135-138. Usp.mat.nauk 9 no.3:283-284 '54. (MLRA 7:10)

(Surfaces) (Mordukhai-Boltovskii, Dmitrii Dmitrievich, 1876-)



Metelka, Josef

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Metelka, Josef. Über ebene Konfigurationen $(12_4, 16_3)$. Časopis Pěst. Mat. 80 (1955), 133–145. (Czech. Russian and German summaries)

Continuing the work of Bydžovský [Věstník Královské České Společnosti Nauk. Třída Matemat.-Přírodověd 1939 no. 2; MR 7, 390], the author describes a method for classifying the fifty-odd known configurations $(12_4, 16_3)$. Numbering the points from 1 to 12, he considers cases where none of the six joins of the four points 9, 10, 11, 12 belongs to the configuration. His scheme shows which other points lie on lines through each of these four. In this manner he distinguishes eight such configurations, four of which are new.

H. S. M. Coxeter.

1 - F/d

METELKA, Josef

Alegbra. Pokusne ucebne texty pre 9. roc. vseob. vzdel. skol. 1. cast. (Algebra; experimental texts for the 9th grade of schools of general education. Pt. 1. a textbook. Tr. from the Czech. illus , notes) Authors: Josef Metalka, Josef Glivicky, and Stanislav Liska. Bratislava, SPN, 1957. 41 p.

Bibliograficky katalog, CSR, Slovenske Khihy, Vol. VIII. 1957. No. 9. p. 276.

28(2)

PHASE I BOOK EXPLOITATION CZECH/2001

Metelka, Josef

Kybernetika, myslici stroje (Cybernetics, Electronic Brains) Prague, Orbis, 1957. 65 p. (Series Knihovna československé společnosti pro šíření politických a vědeckých znalostí, sv. 151) (Series: Knihovna československé společnosti pro šíření politických a vědeckých znalostí. Edice technické vědy, sv. 25) 2,200 copies printed.

COVERAGE: The pamphlet provides a basic introduction to computing machines, here labeled as "electronic brains". A historic survey precedes the description of the main types of mathematical machines. In this survey the author pays tribute to Norbert Wiener. An explanation of principles underlying the theory and practice of electronic computers follows. The author discusses the two main groups of electronic computing machines, i.e., digital computers and analog machines, and describes the arrangement and functioning of these machines, including the arithmetical operations involved. The "SAPO" memory model machine, the so-called "memory register", mentioned in the text is Czech. A diagram is given. Other examples quoted are non-Czech. The similarity between the brain

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and these machines, i.e., between digital functioning and the nervous system is reviewed in the last four chapters handling signals and transformation of information. Professor Doctor J. Hrbka, associated with the neurological clinic at Olomonc, is further developing I.V. Pavlov's physiological theories. There are 10 references: 4 Czech , 3 Soviet, 2 English, 1 French.

TABLE OF CONTENTS: None given. The book is divided as follows:

CZECH/2001

IS/fal
8-6-59

AVAILABLE: Library of Congress

Card 3/3

METELKA, J.

"Derivatives in algebra." p. 59.

OLOMOUC, CZECHOSLOVAK REPUBLIC. VYSOKA SKOLA PEDAGOGICKA. SBORNIK. PRIRODNI VEDY. Olomouc, Czechoslovakia, No. 3, 1957.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 8, August, 1959. Uncl.

METELKA, J.

The course of learning nd forgetting in an electronic model. p. 33.

NOVINKY ZAHRANICNI LITERATURY. PRIRODNI VEDY, MATEMATIKA. KNIHY. (Statni knihovna CSR. Universitni knihovna v Praze) Praha, Czechoslovakia. no. 1, 1958.

Monthly list of East European Accessions (EEAI) LC. Vol. 9, no. 1, January 19[illegible].

Uncl.

METELKA, Josef

Divisibility of the fractorial n ! Mat fyz Cas SAV 15 no 1: 60-72 '65.

. Chair of Algebra and Geometry of the Faculty of Natural Sciences of Palacky University, Olomouc. Submitted June 15, 1964.

L [illegible]

ACC NR: AP6028694 SOURCE CODE: CZ/00[illegible]

AUTHOR: Metelka, Josef--Metelka, Y. (Olomouc)

ORG: Faculty of Natural Sciences, Palacky University, Olomouc (Prirodovedecka fakulta, Universita Palackeho)

TITLE: Note on the article of Academician Bydzovsky: 'Points of inflection of certain plane quartics'

SOURCE: Casopis pro pestovani matematiky, v. 90, no. 4, 1965, 455-457

TOPIC TAGS: solid analytic geometry, algebraic equation, curve geometry

ABSTRACT: In his article (the same journal, vol. 88, 1963, pp. 224-235) Bydzovsky gave five cases of plane quartics for which it can be assumed that the points of inflection are a complete intersection of another plane curve. Four of those cases are studied in detail and are completely answered. The other case was answered in a previous note. [JPRS]

SUB CODE: 12 / DATE SUBM: 030ct64 / ORIG REF: 001 / OTH REF: 002

Card 1/1 [illegible]

METELKA, Josef, Dr (Pivovarska 38, Ostrava I)

Roentgenography of the coracoclavicular joint. Lek. listy, Brno 9 no.21:487-489 1 Nov 54.

1. Z ustredniho rtg. oddeleni KUNZ nemocnice Ostrava V. Zabreh, Prednosta Dr Josef Metelka.
(SHOULDER, anatomy and histology, coracoclavicular joint, x-ray)

METELKA, JOSEF

STEPANEK, Vladimir.; METELKA, Josef.

Use of a screen in nonmalignant x-ray therapy. Cesk. roentg. 11 no.2: 133-136 June 57.

1. Rentgenologicke oddeleni Krajske nemocnice Ostrava V, prednosta prim. MUDr. Josef Metelka.

(RADIOTHERAPY
Use of screen in nonmalignant dis. (Cz))

STEPANEK, Vladimir, Dr. METELKA, Josef, Dr.

Tomographic & x-ray functional investigation of mandibular joint.
Cesk. rentg. 12 no.1:10-12 Mar 58.

1. Rtg. odd. KUNZ v Ostrave V, prednosta prim. Dr. Jos. Metelka.
V. S. Pr.skov 61 u Ostravy.
(MANDIBLE, radiography
mandibular joint, tomography & x-ray, diag. value (Cz))

Metelka Josef

STEPANEK, Vladimir, Dr.; PINOS, Ladislav, Dr.; METELKA, Josef, Dr.

Gargoylism; 2 cases reports & x-ray aspects. Cesk. rentg. 12 no.1: 24-28 Mar 58.

1. Rentgenologicke oddeleni KUNZ v Ostrave-Zabrehu, prednosta primar MUDr Josef Metelka. V. S. Paskov 61 u Ostravy.
(LIPOCHONDRODYSTROPHY, manifest.
x-ray (Cz))

STEPANEK, Vladimir; METELKA, Josef

Generalized hyperostosis & pachyderma with gastrointestinal hypertrophy. Cesk. rentg. 12 no.4:246-249 Dec 58.

1. Rtg. odd. KUNZ - Ostrava V. V. S., UStr. rtg. odd. nemocnice, Ostrava V. Syllahova 19.

(BONE DISEASES, case reports
pachyperiosteoderma with gastrointestinal hypertrophy (Cz))
(SKIN DISEASES, case reports
same)
(GASTROINTESTINAL DISEASES, case reports
hypertrophy with pachyperiosteoderma (Cz))

STEPANEK, Vladimir; METELKA, Josef

Fragilitas Essentialis Ossium. Cesk. pediat. 14 no.2:134-137 5 Feb 59.

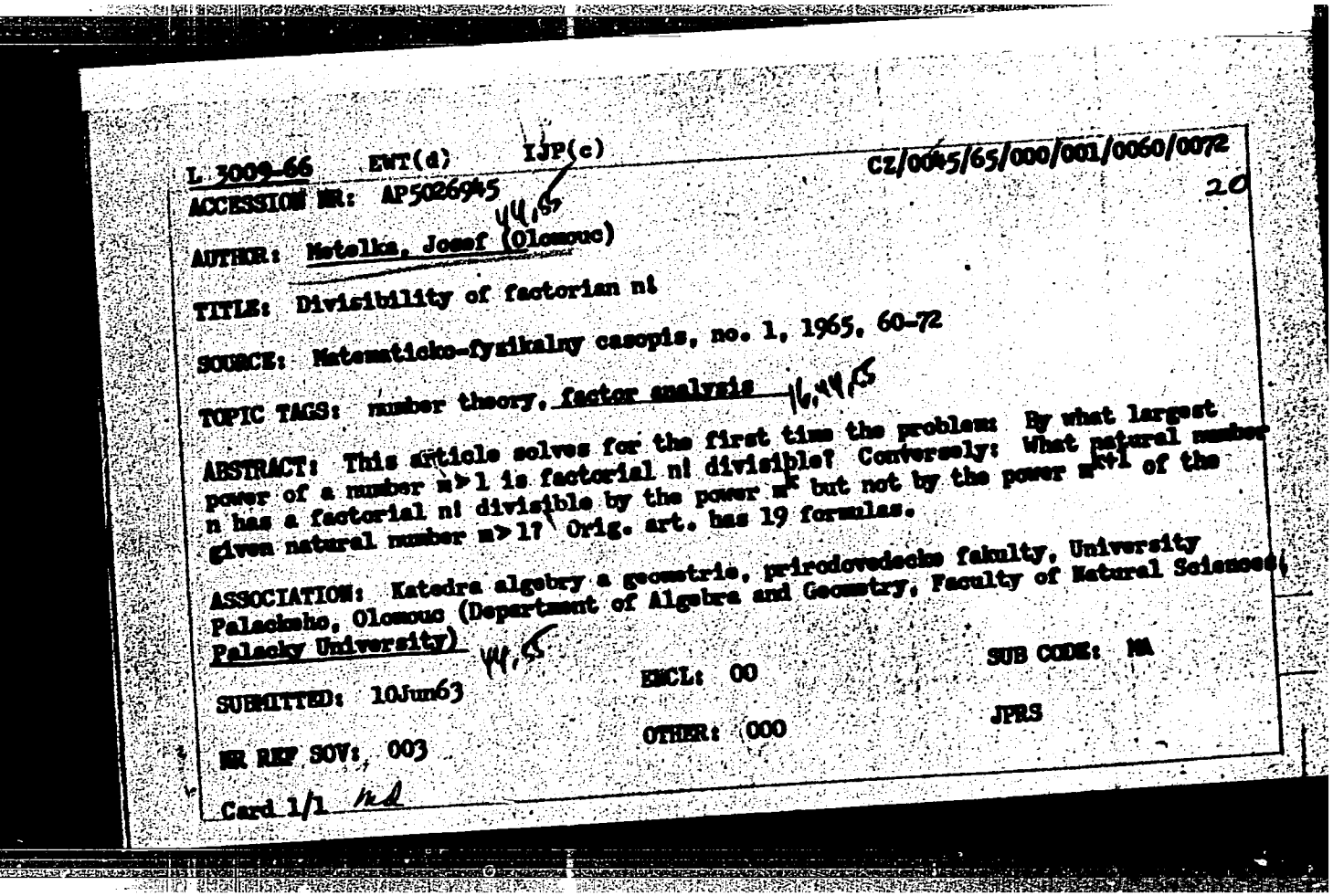
1. Rtg. odd. KUNZ v Ostrave, prim. dr. Josef Metelka. V. S., Paskov 61 u Ostravy.

(OSTEOGENESIS IMPERFECTA, case reports
fragilitas essentialis ossium (Cz))

STEPANEK, Vladimir; METELKA, Josef.

Our experiences with grid-roentgenotherapy of non-neoplastic diseases. Cesk. rentg. 14 no.1:5-6 F '60.

1. Rtg odd. KUNZ v Ostrave V, prednosta prim. dr. Jos. Metelka.
(RADIOTHERAPY)



L 3009-66 EWT(d) IJP(c) CZ/0045/65/000/001/0060/0072
ACCESSION NR: AP5026945 20
AUTHOR: Matelka, Josef (Olomouc) 44,55
TITLE: Divisibility of factorian n!
SOURCE: Matematicko-fyzikalny casopis, no. 1, 1965, 60-72
TOPIC TAGS: number theory, factor analysis 16,44,55
ABSTRACT: This article solves for the first time the problem: By what largest power of a number m>1 is factorial n! divisible? Conversely: What natural number n has a factorial n! divisible by the power m^k but not by the power m^{k+1} of the given natural number m>1? Orig. art. has 19 formulas.
ASSOCIATION: Katedra algebry a geometrie, prirodovedecka fakulty, University Palackeho, Olomouc (Department of Algebra and Geometry, Faculty of Natural Sciences, Palacky University) 44,55
SUBMITTED: 10Jun63 ENCL: 00 SUB CODE: MA
NR REF SOV: 003 OTHER: 000 JPRS
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MEIELKA, M.

Construction of the bottom of the last. p. 28

KOZARSTVI, Praha, Czechoslavakia, Vol. 9, no. 1, Jan. 1959

Monthly List of East European Accessions (ELAI) LC, Vol. 8, No. 10,
Oct. 1959
Uncl.

CEPEK, Zdenek, MUDr; METELKA, Miroslav, MUDr

Treatment of intestinal obstruction. Rozhl.chir. 34 no.6:339-351 June 55.

1. OUNZ Jindrichuv Hradec, chirurgicke oddeleni-prednosta prim. MUDr Zdenek Cepek

(INTESTINAL OBSTRUCTION
pathol. & surg.)

CEPEK, Zdenek, MUDr.; METEIKA, Miroslav, MUDr.

Volvulus of mesogaster with incomplete rotation of the intestines in 18-year-old girl. Rozhl. chir. 36 no.3:131-136 Mar 57.

1. OUNZ Jindrichuv Hradec, chir. oddeleni, prednosta MUDr Zdenek Cepek.
(INTESTINAL OBSTRUCTION, case report
volvulus of mesogaster with incomplete rotation (Cz))

CEPEK, Z.; METELKA, M.

Glucocorticoids in the prevention of adhesive ileitis. Cesk. gastroent. vyz. 15 no.5:342-347 Ag '61.

1. Chirurgicke odd. OUNZ Jindr. Hradec, prednosta prim. dr Z. Cepek.
(ILEITIS prev. & control)
(ADRENAL CORTEX HORMONES ther)

METELKA, M.; SKALA, E.; FUCHSOVA, M.

Pasting of severing peripheral nerves with plasma coagulum. Rozhl. chir. 41 no.12:802-809 D '62.

1. Neurochirurgicka klinika fak. vseob. lek. University Karlovy v Praze, prednosta prof. dr. Z. Kunc Transfuzni oddeleni UVN v Praze, prednosta MUDr. E. Skala Patologickanatomicke oddeleni UVN v Praze, prednosta MUDr. M. Vorreith.
(PERIPHERAL NERVE DISEASES) (PLASMA)

METELKA, M.; MALY, Z.

Arachnoid cysts of the brain. Rozhl. chir. 43 no.10:663-667 O '64.

1. Neurochirurgicka klinika fakulty vseobechneho lekarstvi Karlovy University v Praze, (prednosta prof. dr. Z Kunc, DrSc.).

L 12908-66 EWP(j)/ETC(m) WW/RM

ACC NR: AP6005651 SOURCE CODE: CZ/0079/65/007/002/0160/0161

AUTHOR: Ehrlich, V.; Metelka, M.; Vanickova, M.

ORG: Institute of Hygiene, Prague; Neurosurgical Department, Medical School, Charles University, Prague

TITLE: Final modification of our method of implanting electrodes for recording potentials from deep CNS structures [This paper was presented at the Third Interdisciplinary Conference on Experimental and Clinical Study of Higher Nervous Functions held in Marianske Lazne from 19 to 23 October 1964.]

SOURCE: Activitas nervosa superior, v. 7, no. 2, 1965, 160-161

TOPIC TAGS: central nervous system, electrophysiology, electrode

ABSTRACT: The field of operation can be covered up and healed, and thereby infection is eliminated. Silver wire insulated with Teflon is fixed to the hole in the skull with Duracryl; close to the skull the wire is bare and is bent caudally and fastened with a silver wire to the crista. Leads are fixed to the crista and outside of the body are contained in a PVC tube. The PVC tube is contained in a silicon tube which is inert to the tissue. [JPRS]

SUB CODE: 06 / SUBM DATE: none

Card 1/1 HW

VLADYKOVA, J.; METELKA, M.; VLADYKA, V.

Post-traumatic cortical blindness. Cesk. oftal. 21 no.6: 497-502 N '65.

1. Ocni oddeleni UVN v Praze (vedouci doc. dr. V. Jensi), Neurochirurgicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. dr. Z. Kunc, DrSc.).

METELKA, M.

Surgical iatrogenic lesions of peripheral nerves. Rozhl. chir. 44 no.9:614-619 S '65.

1. Neurochirurgicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. ir. Z. Kunc, DrSc.).

CZECHOSLOVAKIA

METELKA, M.; Neurosurgical Clinic, Faculty of General Medicine, Charles University (Neurochirurgicka Klinika Fakulty Vseobecneho Lekarstvi KU), Prague, Head (Prednosta) Prof Dr Z. KUNC.

"Anastomosis of the 7th and 12th Nerves Using Plasma."

Prague, Ceskoslovenska Neurologie, Vol 29, No 5, Sep 66, pp 305 - 310

Abstract [Author's English summary modified]: A group of 26 patients with anastomosis of the 7th and 12th nerves by nerve suture was compared to a group of 36 patients in whom anastomosis was made by autologous plasma. The latter method gives better results, mainly in voluntary and emotional movements of facial muscles; the loss of axons is reduced. Full functional recovery cannot be achieved by crossed anastomosis; best results are obtained in an anastomosis of the interrupted nerve in the posterior fossa. The case of 2 patients is discussed; the degree of recovery of the functions of facial muscles depends not only on the technique of surgery, but also on long-term rehabilitation. 4 Figures, 3 Western, 4 Czech, 2 Russian references.

1/1

Metelka, Václav

Metelka, Václav. Über gewisse ebene Konfigurationen $(12_4, 16_3)$, welche mindestens einen D-Punkt Enthalten. Časopis Pěst. Mat. 80 (1955), 146–151. (Czech. Russian and German summaries)

The author describes two new configurations $(12_4, 16_3)$ whose twelve points all have rational coordinates.

H. S. M. Coxeter (Toronto, Ont.).

1 / 1-F/F

2 0 1

METELKIN, A., prof. (Moskva); METELKIN, O. (Moskva)

Reviews and discussions. Izv. AN Kazakh. SSR. Ser. biol. nauk 3 no.1:103 N-I '65. (MIRA 18:12)

BREYEV, B.I.; METELKIN, A.D.

Research being made by the Scientific Research Institute of Czechoslovak leather and footwear industries. Leg.prom.17 no.9:22 S '57. (MIRA 10:12)

(Czechoslovakia--Leather industry)

METELKIN, A.

Seminar for specialists of the leather and shoe industries. Leg. prom. 18 no.3:47 Mr '58. (MIRA 11:4)
(Leather industry--Study and teaching)
(Shoe manufacture--Study and teaching)

MITELKIN, A., kand.tekhn.nauk (Moskva)

Corn oil instead of castor oil. Prom.koop. 13 no.2:18 F '59. (MIRA 12:4)

(Leather industry--Equipment and supplies)

METELKIN, A.D

From the work of the research laboratories of the "Forrestal" industries. Kozh.-obuv.prom. 3 no.9:39-40 S '61. (MIRA 14:11)
(Great Britain--Tanning)

METELKIN, A. F.

Metelkin, A. F. -- "Investigation of the Technological Factors which Influence the Accuracy of the Coupling of Precision Plunger Couplings." Min Higher Education USSR, Moscow Order of Labor Red Banner Higher Technical School imeni Bauman, Moscow 1955 (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No. 23, Moscow, Jun 55, pp 87-104

METELKIN, A.F., kandidat tekhnicheskikh nauk.

On wedging precision plunger pairs. [Trudy] MVTU no.44:9-18 '55.
(Pistons) (Fuel pumps) (MLRA 9:6)

122-4-7/29

AUTHOR: Metelkin, A.F., Candidate of Technical Sciences.

TITLE: The selective assembly of plunger and cylinder pairs. (Selektivnaya sborka plunzhernykh par.)

PERIODICAL: "Vestnik Mashinostroeniya" (Engineering Journal), 1957, No. 4, pp. 40 - 41 (U.S.S.R.)

ABSTRACT: The selective assembly of diesel engine fuel pump plungers and cylinders is at present carried out by finding a plunger which enters the cylinder to about 1/3 of its length followed by lapping, which is completed when the plunger enters freely for the whole of its length. The judgment is subjective. The assembly is then inspected to verify its free movement after washing the component in petrol and diesel fuel. The final inspection test consists of measuring the leakage rate of a fine oil under a given piston load. Observations at the Noginsk plant of fuel supply equipment (Noginskiy Zavod Toplivnoy Apparatury) and at the Kharkov Tractor Plant (Kharkovskiy Traktorniy Zavod) KhTZ have revealed the main difficulties of inspection. The precise measurement by a pneumatic comparator is recommended to reduce materially the labour consuming selection during assembly and the work involved in lapping. There are 2 figures.

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AVAILABLE:

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Moscow. Vysshaye tekhnicheskoye uchilishche imeni Baumana

Voprosy tochnosti v mashinostroyenii; [sbornik] Problems of Accuracy in Machine Building; Collection of Articles) Moscow Mashgiz, 1960. 159 p. Errata slip inserted. 5,000 copies printed.

Ed.: V.M. Kovan, Doctor of Technical Sciences, Professor; Ed. of Publishing House: G.I. Baydakov; Tech. Ed.: A.Ya. Tikhanov; Managing Ed. for Literature on Metalworking and Tool Making (Mashgiz): V.V. Rzhavinskiy, Engineer.

PURPOSE: This book is intended for the technical personnel of machine-building plants. It may also be useful to process engineers and scientific workers doing research on the accuracy of machined parts

COVERAGE: In this collection of articles faculty members of the Moscow Higher Technical School imeni Bauman (MVTU) discuss methods of calculating errors connected with setting up workpieces in machine tools. The extent of errors in fastening blanks in three-jaw self-centering chucks is also reviewed. Methods of

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calculating probable inaccuracies in machined parts and magnitude of errors in centerless grinding are discussed. The effect of nonstability of cutting forces on the accuracy of machining, and factors affecting the accuracy of conjugation of precision plunger pairs are discussed. No personalities are mentioned. References follow some of the articles.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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84356
S/191/60/000/008/008/014
B004/B056

15.8110 2109, 2209

AUTHOR: Metelkin, A. F.

TITLE: Use of Epoxy Resins for Assembling Machine Pa ts

PERIODICAL: Plasticheskiye massy, 1960, No. 8, pp. 34-39

TEXT: At the laboratory of the Kafedra "Tekhnologiya mashinostroyeniya" MVTU im. Baumana (Chair of Mechanical Engineering, Moscow Higher Technical School imeni Bauman), the usability of epoxy resins for connecting machine parts was investigated. Dowel joints (Figs. 1 and 4) were subjected to tensile and torsional tests, and tube connections (Figs. 2, 3, 5) were subjected to tensile and density tests. The loading methods are outlined in Fig. 6. As БФ-2 (BF-2) and БФ-4 (BF-4) glues did not give satisfactory results, the first of the epoxy resins ЭД-5 (ED-5) and ЭД-6 (ED-6) was used. Maleic anhydride, polyethylene polyamide, and hexamethylene diamine were used as hardeners. 150 - 160°C was found to be the optimum temperature for hardening. From Fig. 8, the following values of the breaking load at this temperature were found: with 20% hexamethylene diamine, about 2800 kg; with 30% maleic anhydride, about 3000 kg; and

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Use of Epoxy Resins for Assembling Machine Parts

with 8% polyethylene polyamide, about 2600 kg. At a lower content of polyethylene polyamide, values up to 3200 kg could be obtained (Fig. 7), but in this case the resin becomes so thick that pouring into narrow clearances is made difficult. Fig. 9 shows that the optimum duration of heating for maleic anhydride is 30 min, and for the two other hardeners it is 60 min. Without heat treatment (in construction work or in the case of very large machine parts), hexamethylene diamine or polyethylene polyamide may be used. It follows from Fig. 10 that the greatest breaking load was obtained at 0.2 - 0.3 mm clearance. The dowel joints withstood the torsional moment (up to 700 - 1300 kg·cm) during the tightening of screws. Fig. 11 shows the dependence of the breaking load on the clearance in the case of thin-walled tubes: Optimum at 0.05 - 0.1 mm. In the case of gas- and water-pipes, 1 to 2 mm clearance gave sufficient strength. In this case, Viniplast powder, foundry dust, quartz sand, cement, metal shavings, and metal powder were used as fillers. The latter gave the best results; but also with 50% quartz sand, the breaking load was not below 1500 kg. 3/4 and 1 3/4 inch tubes gave a breaking load of 2800 to 3000 kg with ED-5 and hexamethylene diamine. The tubes remained tight at 10 atm. Repeated heating of hot-hardened tube connections (Fig. 12) at 100°C caused the breaking load to decrease, but this remained within the

84356

Use of Epoxy Resins for Assembling Machine Parts

S/191/60/000/008/008/014
B004/B056

permissible limits. Cold-hardened tube connections did not withstand this test. Cooling down to -70°C was without influence upon strength. The author discusses the reduction of expenses by using resin to be expected as a result of the elimination of surface treatment and thread-cutting. The material costs for resin are 3 kopecks per dowel joint, and for a connection of thin-walled tubes 12 kopecks. Mention is made of the luting of bicycle frames at the "Mifa" works in Eastern Germany. There are 12 figures and 1 Soviet reference.

Card 3/3

METELKIN, A.F.; KARPOVA, K.A., inshener; LUR'YE, L.S., kandidat tekhnicheskikh nauk; RAKHIMOV, G.R., dotsent, kandidat tekhnicheskikh nauk; KYAZIM-ZADE, Z.I., dotsent, kandidat tekhnicheskikh nauk.

Remarks on the textbook on theoretical electric engineering for higher schools. Elektrichestvo no.12:70-72 D '53. (MLRA 6:11)

1. Ivanovskiy energeticheskiy institut im. Lenina (for Metelkin and Karpova). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii sel'skogo khozyaystva (for Lur'ye). 3. Srednaziatskiy politekhnicheskiy institut (for Rakhimov). 4. Azerbaydzhanskiy industrial'nyy institut im. Azizbekova (for Kyazim-Zade). (Electric engineering--Textbooks)

MITELKIN, A.F., (Ivanovo); LYUBIMOV, M.A., (Ivanovo).

Experiments with a cathode tube to explain the principle of electric current. Fiz.v shkole 13 no.3:63-65 My-Je '53. (MLRA 6:6)
(Cathode ray tubes) (Electric currents)

METELKIN, A.F.; LYUBIMOV, M.A.

Study of electric spark discharges. Fiz.v shkole 14 no.2:52-54 Mr-Ap '54. (MLRA 7:2)

1. Gorod Ivanovo, Energeticheskiy institut im. V.I.Lenina. (Electric discharges through gases) (Electrophorus)

METELKIN, A.F.

GRUSHEVSKIY, B.V., dotsent, kandidat tekhnicheskikh nauk; KONSTANTINOV, V.I., inzhener (Moscow); METELKIN, A.F.; LYUBIMOV, M.A.; TABACHINSKIY, V.F., dotsent, kandidat tekhnicheskikh nauk; ROZANOV, S.P., professor, doktor tekhnicheskikh nauk; LAVROV, V.M., dotsent, kandidat tekhnicheskikh nauk; BRON, O.B., professor, doktor tekhnicheskikh nauk (Leningrad).

The field as an aspect of matter. Elektrichestvo no.2:55-64 F'55. (MLRA 8:2)

1. Donetskiy industrial'nyy institut (for Grushevskiy). 2. Ivanovskiy energeticheskiy institut im. Lenina (for Metelkin and Lyubimov). 3. Kafedra teoreticheskikh osnov elektrotekhniki Leningradskogo instituta inzhenerov zheleznodorozhnogo transporta (for Tabachinskiy). 4. Kafedra elektrooborudovaniya MIKhM (for Rozanov). 5. Moskovskiy elektrotekhnicheskiy institut svyazi (for Lavrov).
(Electromagnetic theory)

METELKIN, A. F.

AID P - 1463

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 14/36

Author : Metelkin, A. F. and Lyubimov, M. A.

Title : The field as an aspect of matter (Discussion of the article by O. B. Bron, Elektrichestvo, No. 7, 1954)

Periodical : Elektrichestvo, 2, 57, F 1955

Abstract : The author agrees in principle with the approach of O. B. Bron, but criticizes some of his presentations, as, for example, the nature of heat which is presented as substance and in other places as field.

Institution: Ivanov Power Engineering Institute im. Lenin

Submitted : No date

METELKIN, A. F.

AID P - 2361

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 25/30

Authors : Metelkin, A. F. and Lyubimov, M. A.

Title : A different formula for the Biot-Savart law (Concerning an article by V. M. Yuzhakov in this journal, No.8, 1954)

Periodical : Elektrichestvo, 5, 84-85, My 1955

Abstract : The authors consider that V. M. Yuzhakov did not present any "different" mathematical formulation of the law. This formula results from the usually accepted one. It does not bring anything new in the calculations of field intensity. Two Soviet references (1950-1951).

Institution: Ivanovsk Power Engineering Institute im. Lenin

Submitted : No date

METELKIN, A.F. (Ivanovo)

Experiments with Franklin's "wheel." Fiz. v shkole 21 no.1:68 Ja-F '61. (MIRA 14:9)
(Electricity--Experiments)

L 53591-65 EWT(d)/EWT(l)/EWT(m)/EWP(w)/EWA(d)/EPR/EWP(t)/EWP(k)/EWP(b)/EWA(c)
Pf-4 MJW/JD/HW/EM
ACCESSION NR: AP5012893 UR/0145/65/000/004/0045/0053
539.4

AUTHORS: Metelkin, A. F. (Candidate of technical sciences, Docent); Pavlov, Yu. I. (Aspirant)

TITLE: Certain problems of increasing the exploitation safety of pipe connections

SOURCE: IVUZ. Mashinostroyeniye, no. 4, 1965, 45-53

TOPIC TAGS: pipe flow, joint, stress distribution, stress analysis, stress calculation, stress relaxation/ EI 961 steel, KH18N9T steel

ABSTRACT: Stress distribution during the work of a pipe-connection under sudden changes in temperature was studied theoretically and tested. Starting with the Fourier formula for thermal flow under nonstationary conditions, equations were derived for the axial weakening in the connection, the radial and axial weakening in the area of thread, and for the total free play in the junction. Theoretical results were found either identical with or very close to the measured ones. To prevent the formation of leaks and to extend the lifetime of a pipe connection, it is recommended to eliminate the joints (where possible), to transfer them into a zone of lesser thermal stress, or to decrease the thermal flow affecting the

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ACCESSION NR: AP5012893

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Junction. If these measures are impossible, special nipple-joints were recommended. The nipples are made of EI-961 steel and are welded to the steel pipes Kh18N9T. They showed a satisfactory performance at 300C and at kerosene pressure 80 kg/cm^2. Nipple sizes required for various connections are calculated. Other thermo-compensating elements recommended are: a special insert into a nut for the butt-joints and a special spring interlayer for the flange connections. Orig. art. has: 6 figures and 3 formulas.

ASSOCIATION: Moskovskiy aviatsionnyy tekhnologicheskiy institut (Moscow Technological Institute of Aviation)

SUBMITTED: 30Sep64 ENCL: 00 SUB CODE: IE, MM

NO REF SOV: 004 OTHER: 000

Card 2/2

L 00914-66 EWT(1)/EWT(m)/EWP(w) JD/EM

ACCESSION NR: AP5019516 UR/0145/65/000/006/0102/0107
621.6.038

AUTHORS: Metelkin, A. F. (Candidate of technical sciences, Docent); Pavlov, Yu. I. (Aspirant); Ratkin, S. D. (Engineer)

TITLE: Stresses in pipes

SOURCE: IVUZ. Mashinostroyeniye, no. 6, 1965, 102-107

TOPIC TAGS: stress load, strain gage, experimental method, static stress, dynamic stress, thermal expansion

ABSTRACT: The stresses in a pipeline are divided into dynamic and static components

$$\Sigma\sigma = \Sigma\sigma_{dyn} + \Sigma\sigma_{st}$$

The dynamic stresses are produced by oscillations generated by the flow velocity, pressure, and engine vibrations; the static stresses are caused by thermal expansion. To determine these stresses during operation, the hydraulic conduits of three engines were experimentally investigated. The stresses were measured by strain gauges and recorded on oscillograms. The test results show that the hydrosystem pipeline can be divided into three dynamic stress zones corresponding to

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stresses not greater than 2.5, 4, and 7 kg/mm^2 respectively. The general vibration level in the pipes was 200-500 cycles/sec. A special effort was made to estimate mounting stresses in the pipes. Results of studies on 10 pipelines indicate that the mounting stresses are a direct function of construction misaligments and could amount to 19-20 kg/mm^2. Means are suggested for reducing mounting stresses, such as the use of flexible metallic joints and self-adjusting systems. Flexible connections also have the advantage of low frequency vibrations. Pressure stresses are shown to be insignificant compared to the vibration-induced stresses and the thermal expansion stresses. The latter attain magnitudes of about 10-15 kg/mm^2. Means for reduction of thermal stresses are suggested, among which is the possible use of adjustable supports for the conduit system. Orig. art. has: 4 figures, 3 formulas, and 1 table.

ASSOCIATION: Moskovskiy aviatsionnyy tekhnologicheskiy institut (Moscow Aviation Technological Institute)

SUBMITTED: 30Sep64 ENCL: 00 SUB CODE: ME

NO REF SOV: 002 OTHER: 001

Card 2/2

ACC NR: AP6027622 SOURCE CODE: UR/0145/66/000/006/0053/0056

AUTHOR: Metelkin, A. F. (Candidate of technical sciences; Docent); Pavlov, Yu. I. (Engineer); Matyushkin, L. V. (Engineer)

ORG: Moscow Order of Lenin Aviation Institute (Moskovskiy aviatsionnyy tekhnicheskiy institut)

TITLE: Effect of cleaning methods on fatigue of pipelines of aircraft engine hydraulic systems

SOURCE: IVUZ. Mashinostroyeniye, no. 6, 1966, 53-56

TOPIC TAGS: stainless steel, pipeline, hydraulic system, ~~pipeline~~, aircraft, ~~hydraulic system, pipeline~~ fatigue strength/Kh18N10T steel

ABSTRACT: Experiments have been made to develop an optimal cleaning method for welded or brazed stainless-steel pipelines of aircraft-engine hydraulic systems. Chemical and ultrasonic pickling in different solutions of sulfuric, hydrochloric, nitric, and hydrofluoric acids at various temperatures were tested. Ultrasonic pickling in a solution containing 3% nitric and 3% hydrofluoric acids at 18—25C was found to be the most efficient. Welded joints in pipe 12 mm in outside diameter with a wall thickness of 1 mm required 10 min, and brazed joints, 20 min. Ultrasonically pickled specimens ha a fatigue limit ($10 \cdot 10^6$ cycles) of 8.4 kg/mm^2 for brazed and 7.2 kg/mm^2 for welded

UDC: 621.79.02:621.643.2/3

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ACC NR: AP6027622

specimens, compared to 7.8—7.2 kg/mm^2 and 6,8—6,3 kg/mm^2 for chemically pickled specimens. Orig. art. has: 3 figures and 1 table. [AZ]

SUB CODE: 13/ SUBM DATE: 12Jun65/ ORIG REF: 003/ ATD PRESS: 5062

Card 2/2

L 05696-67 EWP(k)/EWT(l)/EWT(m)/T/EWP(w)/EWP(v)/EWP(t)/ETI IJP(c) EM/WW/JD/HM

ACC NR: AP6022863 SOURCE CODE: UR/0145/66/000/002/0038/0042

AUTHOR: Metelkin, A. F. (Candidate of technical sciences, Lecturer); Pavlov, Yu. I. (Graduate student)

ORG: Moscow Aviation Engineering Institute (Moskovskiy aviatsionno-tekhnologicheskiy Institut)

TITLE: Strength of aviation pipeline couplings with brazed nipples

SOURCE: IVUZ. Mashinostroyeniye, no. 2, 1966, 38-42

TOPIC TAGS: stress analysis, pipeline, hydraulic equipment, turbojet engine, metal joining, stress concentration, fatigue strength

ABSTRACT: The authors study methods for raising the safety factor of pipelines with brazed nipples in turbojet engine hydraulic systems under variable stresses. The pipelines and nipples in this study were made of Kh18N9T steel and brazed by high frequency current and oxyacetylene torches using PZh45-81 high-temperature solder. Such joints can withstand pressures of more than 500 kg/cm^2 and uniform heating up to 700°C. It should be added that this type of union can function under extreme vibration. Turbojet engine pipelines are most susceptible to vibration arising from rotor imbalance and gas stream pulsations. Strain tests of 60 pipelines show that the overall maximum level of vibration stresses is 5-6 kg/mm^2. An expression is given

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ACC NR: AP6022863

for calculating the safety factor of pipelines used under variable load conditions. This is based on the fact that variable loads change according to an asymptotic law. In finishing pipeline systems, a safety factor of at least 1.3-1.4 is desirable. This can be achieved by decreasing variable stresses and lowering the static component of normal stresses thus raising the fatigue limit. Tests show that the fatigue limits are approximately the same in pipeline bending for tubes with internal fluid pressure of 100 kg/cm^2 and atmospheric pressure. The fatigue limit of pipelines is a function of the absolute dimensions of pipe cross section and local stress concentrators. It is shown that the experimental method is most accurate in determining the fatigue limit of pipelines. Data are given for fatigue limits of various diameter pipelines and experimental coefficients of stress concentration for nipples. The minimum safety factor used for existing turbine engine pipelines is 1.75-2.5. The main problem to be solved is that higher safety factor values should not be accompanied by increased weight and reduced efficiency of the system. Orig. art. has: 4 figures, 2 formulas.

SUB CODE: 01, 11, 13, 21,20/SUBM DATE: 28Dec64

Card 2/2

ACC NR: AM6030648 Monograph UR/

Gevorkyan, Ashot Mushegovich; Ivanov, Andrey Pavlovich; Metelkin, Aleksandr Fedorovich; Moskalev, Mikhail Aleksandrovich

Technology of aircraft engine construction; a manual for thesis writers (Tekhnologiya aviadvigatelestroyeniya; uchebnoye posobiye po diplomnomu proyektirovaniyu) Moscow, Izd-vo "Mashinostroyeniye", 1966. 174 p. illus., biblio., tables. 9200 copies printed. Textbook for students at aviation schools and faculties.

TOPIC TAGS: aircraft engine, ~~production,~~ production engineering, industrial management

PURPOSE AND COVERAGE: The book is intended for students writing theses on aircraft engine technology, for teaching staffs in aviation institutes, and for production engineers. It can also be useful to other machine building specialities. A systematic presentation is given on the planning of thesis writing on aircraft engine production, production management, introduction of new methods, new machinery, quality control, production automation, and equipment replacement and repair. Included as appendices are several tables dealing with production control and production management. There are 36 references, all Soviet.

Card 1/2 UDC: 629.13.003.3 (075.8)

ACC NR: AM6030648

TABLE OF CONTENTS (Abridged):

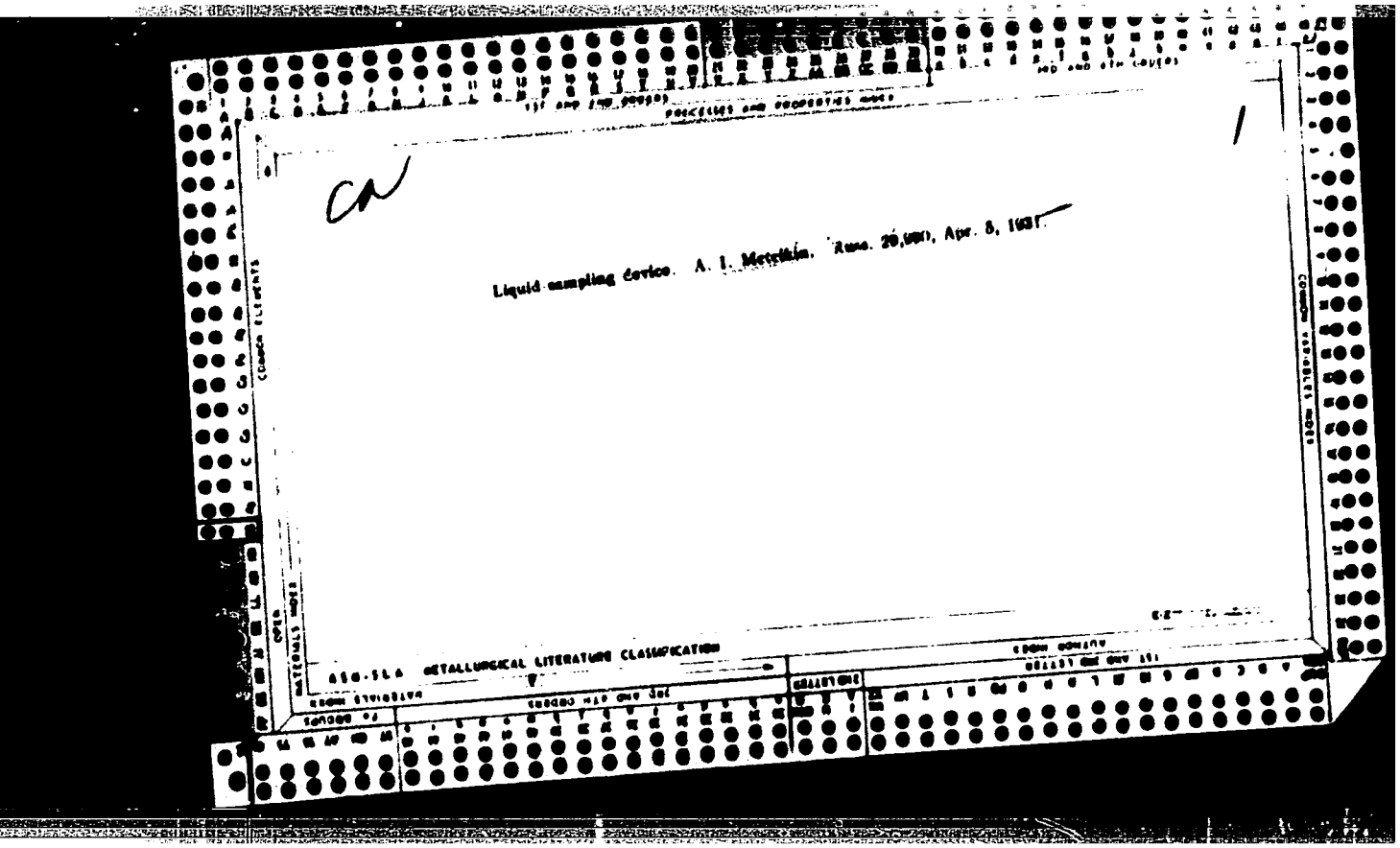
SUB CODE: 21, 1 / SUBM DATE: 07May66/ ORIG REF: 036/

Card 2/2

SMIRNOV, G.A., inzh.; METELKIN, A.G., inzh.

Oil purification by a full-flow reactive centrifuge. Trakt. i sel'khozmash. 31 no.12:9-11 D '61. (MIRA 15:1)

1. Nauchno-issledovatel'skiy avtotraktornyy institut (for Smirnov).
2. Vladimirskiy traktornyy zavod (for Metelkin).
(Oil filters) (Tractors--Engines)



METELKIN, A. I.

Dissertation: "Loss of Tannins in Relation to the Initial Concentration of the Tanning Liquor When Using Typical Combinations of Tanning Agents." Cand Tech Sci, Moscow Technological Inst of Light Industry, Moscow, 1953.
Referativnyy Zhurnal--Khimiya, Moscow, No 7, Apr 54.

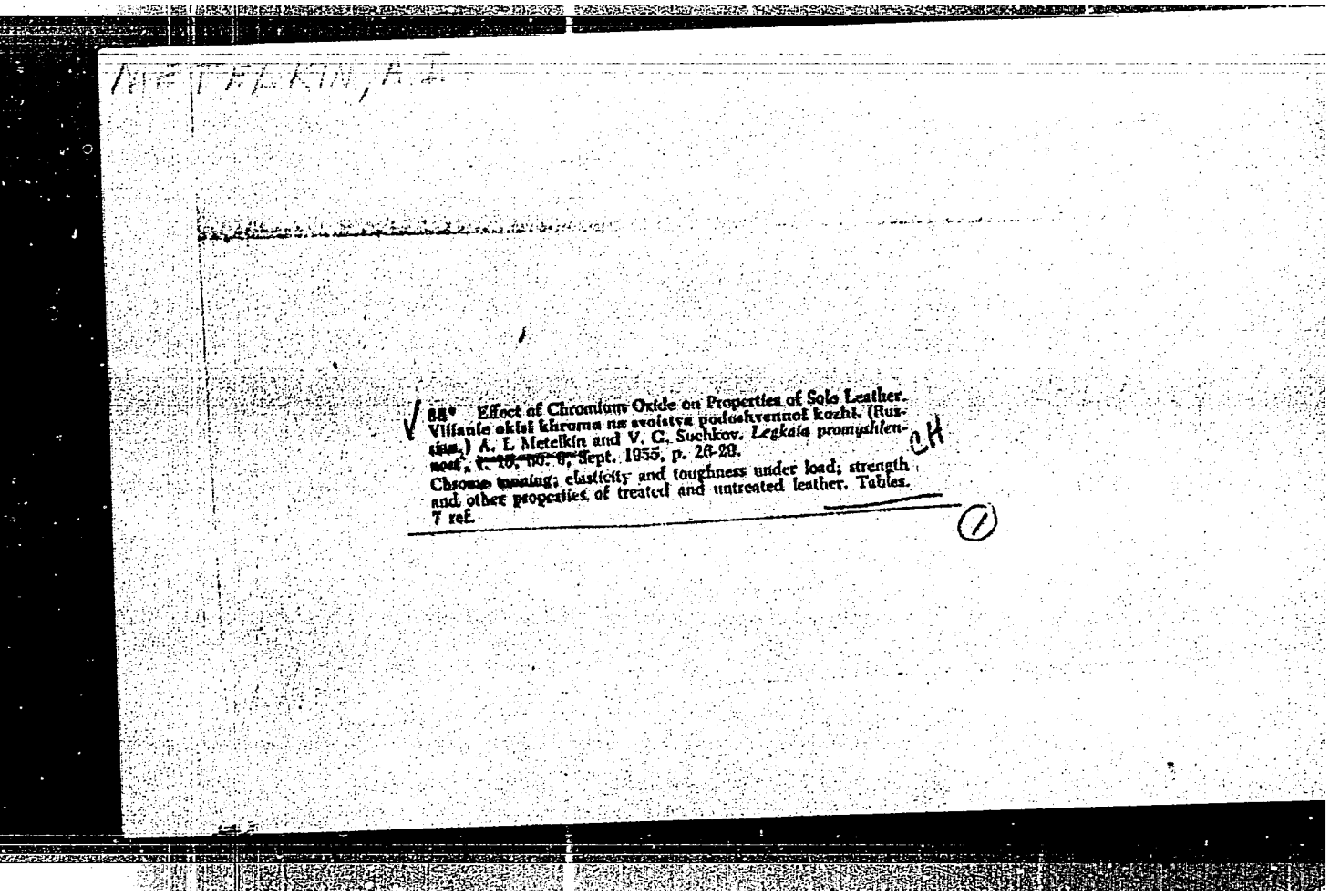
SO: SUM 284, 26 Nov 1954

METELKIN, A.I., kandidat tekhnicheskikh nauk.

A fuller utilization of tanning agents in the process of tanning. Leg.prom.15 no.2:41-43 F '55. (MLRA 8:4)
(Tanning)

METELKIN, A.I., kandidat tekhnicheskikh nauk

Changes in thickness and surface of sole leather in the process of tanning. Leg. prom. 15 no.6:32-34 Je '55. (Tanning) (MLRA 8:8)



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Meteikin, A I

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2 May

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