CHERNIN, YE. N.

Khodorov, Ye. I. and Chernin, Ye. N. - "The effect of the number of revolutions on the heat emission in a rotary furnace," - In index: 2nd author- Chernin, Ye. I., Tsement, 1948, No. 6, p. 16-18.

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

CHERNIN, Ye.N.

p.r PHASE I BOOK EXPLOITATION 1144

Leningradskiy metallicheskiy zavod imeni Stalina, Leningrad

Razvitiye tekhniki na Leningradskom Metallicheskom zavode imeni Stalina (Technological Developments at the Leningrad Metal Works imeni Stalin) Moscow, Mashgiz, 1957. 313 p. 6,000 copies printed.

Ed.: Bushuyev, M.N., Engineer; Editorial Board: Berezin, B.A., Engineer; Mernik, M.Kh.; Sutokskiy, N.V., Engineer; Edel', Yu.U., Candidate of Technical Sciences; Ed. of Publishing House: Gofman, Ye.K.; Tech. Ed.: Pol'skaya, R.G.; Chief Ed. (Leningrad Division, Mashgiz): Bol'shakov, S.A., Engineer.

PURPOSE: This book is intended for personnel of the LMZ (Leningrad Metal Works) and also for other plants and institutes.

COVERAGE: The book was published in connection with the 100th anniversary of the Leningrad Metal Works and contains articles

Card 1/4

dealing with the technological progress of the plant in developing powerful steam, gas, and hydraulic turbines.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (TJ267.L4)

Card 4/4

GO/mfd
2-11-59

CHERNIN, Ye. N.

PREDTECHENSKIY, Georgiy Pavlovich; CHERNIN, Ye.N., red.; ZABRODINA, A.A., tekhn.red.

[Gas turbine installations] Gazoturbinnye ustanovki. Moskva, Gos. energ. izd-vo, 1957. 376 p. (MIRA 11:3)
(Gas turbines)

ACCESSION NR: AP4045906 S/0114/64/000/009/0012/0015

AUTHOR: Khristich, V. A. (Candidate of technical sciences); Bashkatov, Yu. N. (Engineer); Chernin, Ye. N. (Engineer); Shevchenko, A. M. (Engineer)

TITLE: Effect of a burner on the characteristics of a gas-turbine combustor

SOURCE: Energomashinostroyeniye, no. 9, 1964, 12-15

TOPIC TAGS: combustor, combustor test, combustion chamber, combustion chamber test, gas turbine/GT-25-700-1-LMZ gas turbine plant

ABSTRACT: A continuation of the authors' earlier experiments (Energomashinostroyeniye, 1962, no. 10) is reported. The possibility of a radical improvement in a premixing register burner by modifying its design was explored. The principal experiments were conducted at an air pressure of 1.5 atm, a temperature before the chamber of 300C, an air flow of 7—8 m^3/sec, and an air-fuel ratio of 4.5—20 (primary-air ratio, 1.1—5). Several types of

Card 1/3

ACCESSION NR: AP4045906

burners were tested; four of them are shown in Enclosure 1. The flow aerodynamics was investigated with a cold blowdown of the chamber. Register burner I was found to produce the highest temperature field in the flame tube. The best operating conditions of the flame tube were observed (at 700C of exhaust gases) with nonregister-type diffusion burners. The intensity and completeness of combustion were also investigated (curves supplied), as well as combustion stability, pressure loss in the chamber, and the temperature field of exhaust gases. Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiev Polytechnic Institute); Leningradskiy metallicheskiy zavod (Leningrad Metal Plant)

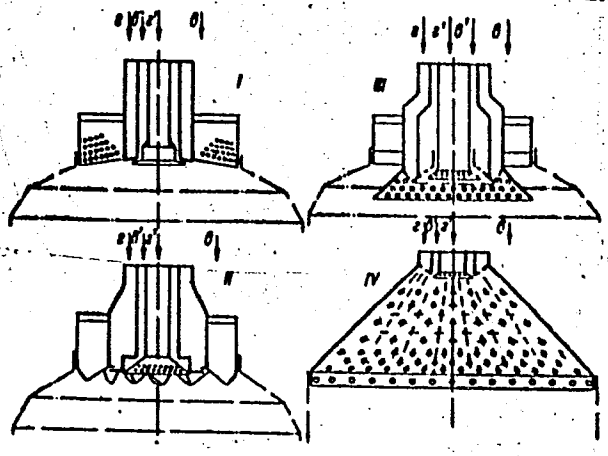
SUBMITTED: 00 ENCL: 01

SUB CODE: PR NO REF SOV: 002 OTHER: 000

Card 2/3

ACCESSION NR: AP4045906

ENCLOSURE: 01



Burner types tested.

I - Flat-register premixing burner
II - Diffusion-type register burner
III - Nonregister diffusion burner, cone stabilizer
IV - Nonregister diffusion burner, jet mixing

Card 3/3

KHRISTICH, V.A., kand. tekhn. nauk; OL'KHOVSKIY, G.G.; CHERNIN, Ye.N., inzh.; BASHKATOV, Yu.N., inzh.; SHEVCHENKO, A.M., inzh.; TUMANOVSKIY, A.G., inzh.; GOROBETS, V.S., inzh.

Some results of the tests and adjustment of the combustion chambers of the gt-25-700 and gtn-9-750 gas turbine power systems. Teploenergetika 12 no.2:16-20 F '65. (MIRA 18:3)

1. Vsesoyuznyy ordena Trudovogo Krasnogo Znameni teplotekhnicheskiy institut imeni F.E. Dzerzhinskogo; Kiyevskiy politekhnicheskiy institut i Leningradskiy metallicheskiy zavod.

L 40204-66 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l) IJP(c) RH

ACC NR: AP6030053 SOURCE CODE: UR/0114/66/000/004/0002/0008

64
B

AUTHOR: Polishchuk, V. L. (Engineer); Orlov, M. D. (Engineer); Chernin, Ye. N. (Engineer); Reznichenko, V. Ya. (Engineer); Kotov, Yu. V. (Engineer); Bodrov, I. G. (Engineer); Yamalutdinov, I. T. (Engineer); Ol'khovskiy, G. G. (Candidate of technical sciences)

ORG: none

TITLE: Results of testing first model and series examples of gas turbines GTN-9-750 of Leningrad Metallurgical Plant im. XXII CPSU Congress

SOURCE: Energomashinostroyeniye, no. 4, 1966, 2-8

TOPIC TAGS: gas turbine, pipeline, centrifugal pump, electric power production, turbine design, turbine compressor/GTN-9-750 gas turbine, NG-280-9 centrifugal pump

ABSTRACT: A description of the testing of the 9000 kw GTN-9-750 gas turbine, designed to drive the NG-280-9 centrifugal pipeline pump, used on the Bukhara-Ural gas pipeline. The tests showed that the actual power produced in operating conditions is 8,750 kw, efficiency 25%. The maximal power produced without additional equipment and regenerators is 9600-10,000 kw. The characteristics of the main elements of the turbine were found to be near the design characteristics: the adiabatic efficiency of the compressor is 89%, the low and high pressure turbine sections operate at 85% and 89-90% efficiency. Long-term testing with repeated stops and starts showed that the unit as modified from the prorotype is suitable for operation in the gas pipeline system. Orig. art. has: 5 figures, 7 formulas and 3 tables. [JPRS: 36,501]

SUB CODE: 13, 10 / SUBM DATE: none / ORIG REF: 002

Card 1/1 fb

UDC: 621.438.001.41

S/133/61/000/006/013/017
A054/A129

AUTHORS: Vinograd, M. I., Candidate of Technical Sciences, Goncharenko, M.S. (Deceased), Doronin, V. M., Topilin, V. V., Chernina, B. G., Engineers

TITLE: Improving the technology of ЭИ347 (EI347) ball bearing steel

PERIODICAL: Stal', no. 6, 1961, 543-546

TEXT: In the structure of the EI347 type steel used in 1956-57 for the production of rings of 100 mm in diameter produced from steel sections or disks made of 200-300-kg ingots the ledeburite was not sufficiently divided, moreover, the amount of non-metallic inclusions was found to be too high. In order to improve the technology of this steel grade, tests were carried out with the cooperation of Candidate of Technical Sciences A. S. Sheyn, Engineers V. N. Gorskiy, V. P. Arkhipova, Ye. V. Laguntsova, S. A. Kiseleva, V. Ya. Rybakova, Technicians I. N. Bystrikova, Ye. P. Burdyuchkina, and I. P. Solodikhin. In all tests smelting took place by blowing oxygen through the bath and by bottom casting. The ladles were made of fireclay or mullite, the weight of the ingots was 300, 500 and 750 kg, from which billets 80 x 80 - 90 x 90 mm in size were made.

Card 1/4

The samples cut from strips 10-12 mm thick taken from the billets were heated in a salt bath to 1,220° ± 10°C with 2 min 30 sec. holding time and annealed at 680° - 700°C for 1 hour, then cooled on air. The following six variants were tested (Table 1). Table 2 shows that the steel had the lowest percentage of non-metallic inclusions when the charge consisted of 35-60% high-speed steel scraps, 30-50% ШХ 15 (ShKh15) steel waste, with the addition of 5-10% ferroalloys. In order to assess the effect of the ladle lining on the impurities, variant II was poured in a chamotte ladle, variant V in a mullite ladle and variant VI in a ladle lined with smooth ("planed") mullite. The best results were obtained with the mullite-lined ladle, the worst results with the ladle lined with smooth high-silicon bricks. It was established concerning the temperature that least siliceous and globular inclusions were found in the steel cast at 1,570° - 1,600 °C. The cleanest zone in the 500-kg and 750-kg ingots is that under the riser head, whereas the part containing most impurities was found in the center of the ingot. In order to obtain the required degree of non-uniformity in carbide structure of the steel, 750-kg ingots have to be used for the disks and 500-750-kg ingots for sectional steel 60-80 mm in diameter, while 300-kg ingots must be taken for sections with smaller diameter. In order to remove the surface defects, the ingots had to be cleaned to a depth of 5-8 mm. By applying this new

Improving the technology of ЭИ347 (EI347) ...

technology for EI347 grade steels, the waste in the finished product was less than 2%. There are 3 figures and 4 tables.

ASSOCIATION: TsNIIChM and zavod "Elektrostal'" (Elektrostal' Plant)

Table 1: Variants of smelting and pouring EI347 grade steel:

1 parameters Показатели	Номер варианта Number of variant I	II	III	IV	V	VI
1 Состав шихты, % отходы сталей:						
2 быстрорежущей . . .	25—30	45—50	10—20	20—25	35—60	35—40
3 ШХ15 . . .	25—30	40—45	40—45	40—45	35—50	35—45
4 вольфрамистые* шихтовые слитки	15—20	—	30—40	—	—	—
5 мягкое железо	15—20	—	—	15—20	—	10—15**
6 ферросплавы	5—10	5—10	5—10	10—15	5—10	10—15
7 Футеровка ковшей*** . . .	Ш	Ш	М	М	М	МС
8 Количество плавок, разлитых на слитки весом, кг:						
300	—	—	—	2	—	—
500	4	1	2	—	3	—
750	4	6	4	8	10	10

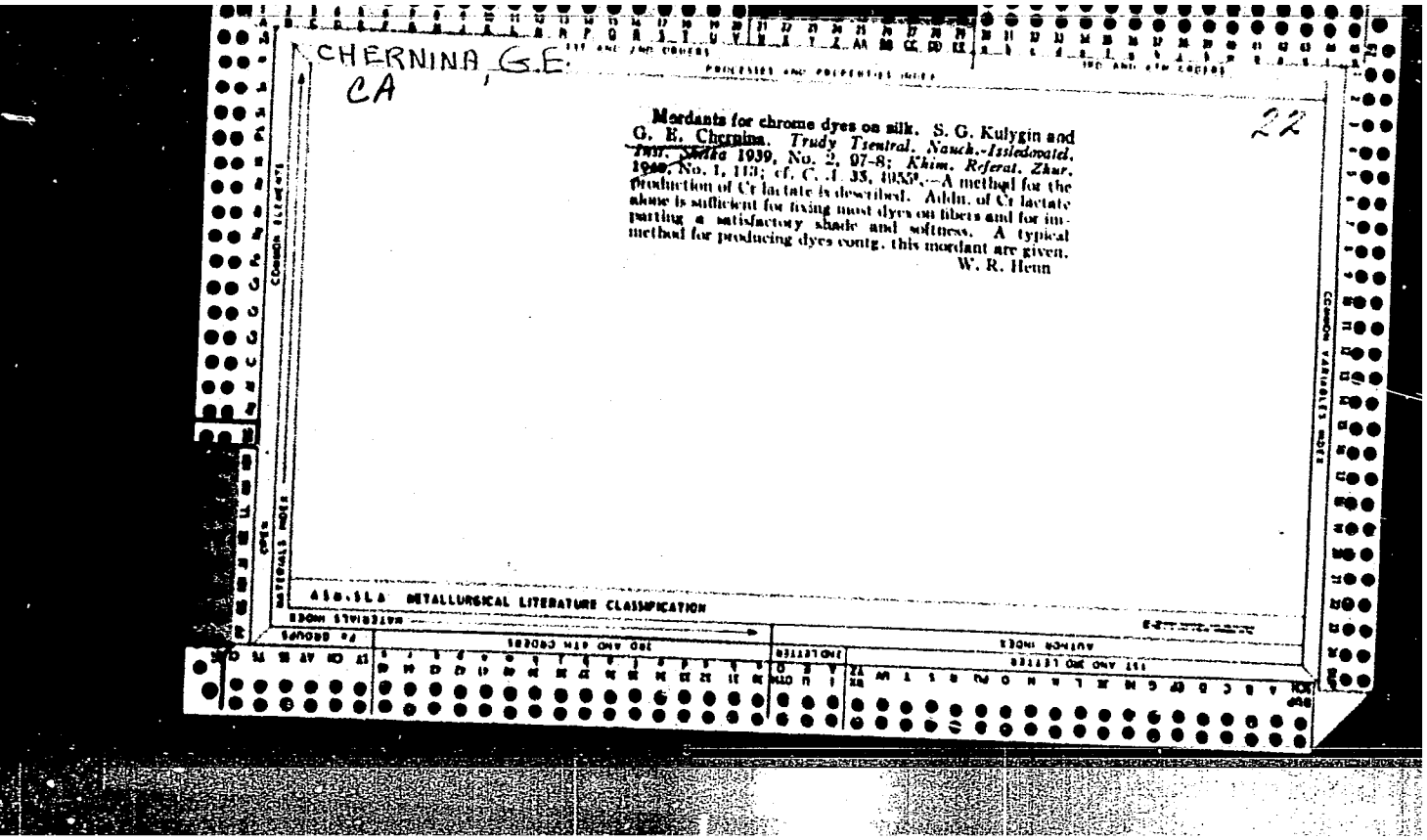
Legend: 1 - composition of the charge, %; 2 - scraps of high-speed steel; 3 - steel, ShKh15; 4 - tungsten-steel* ingots, 5 - soft iron; 6 - ferro-alloys; 7 - lining of the ladle***; 8 - number of castings, (ingots) having a weight of, kg:; * Approximate composition: 0.76% C; 0.25% Si; 0.28% Mn; 0.03% S; 0.03% P; 2.4% Cr; 9.55% W; 0.70% V; 0.19% Mo; ** Including 8% of 1Kh13 steel; *** Ш = Sh: chamotte; М = M: mullite;

Card 3/4

CHERNINA, G.P.

Survival of Leptospira grippotyphosa in water. Zhur. mikrobiol., epid. i immun. 41 no.3:143 Mr '64. (MIRA 17:11)

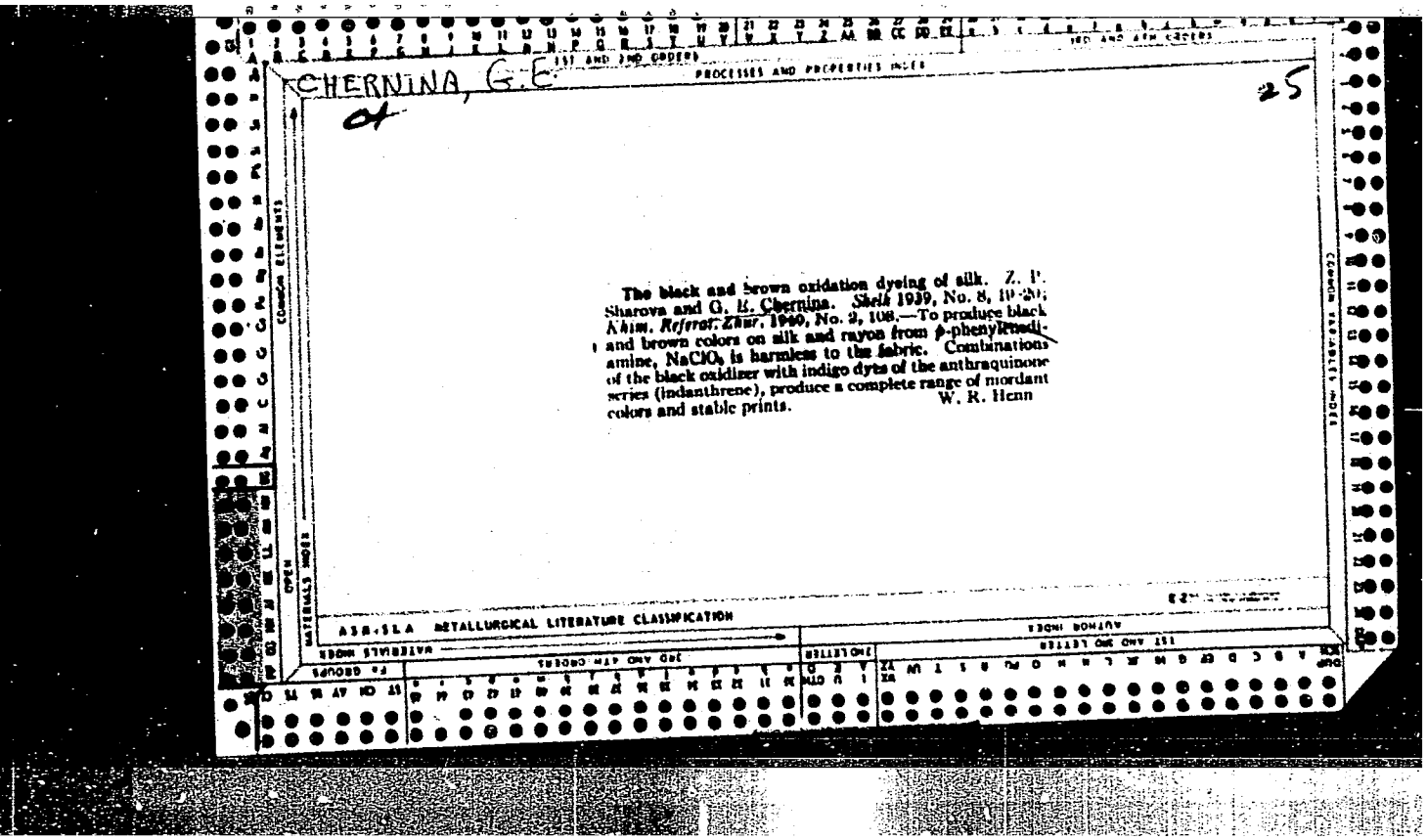
1. Ukrainskiy institut kommunal'noy gigiyeny.

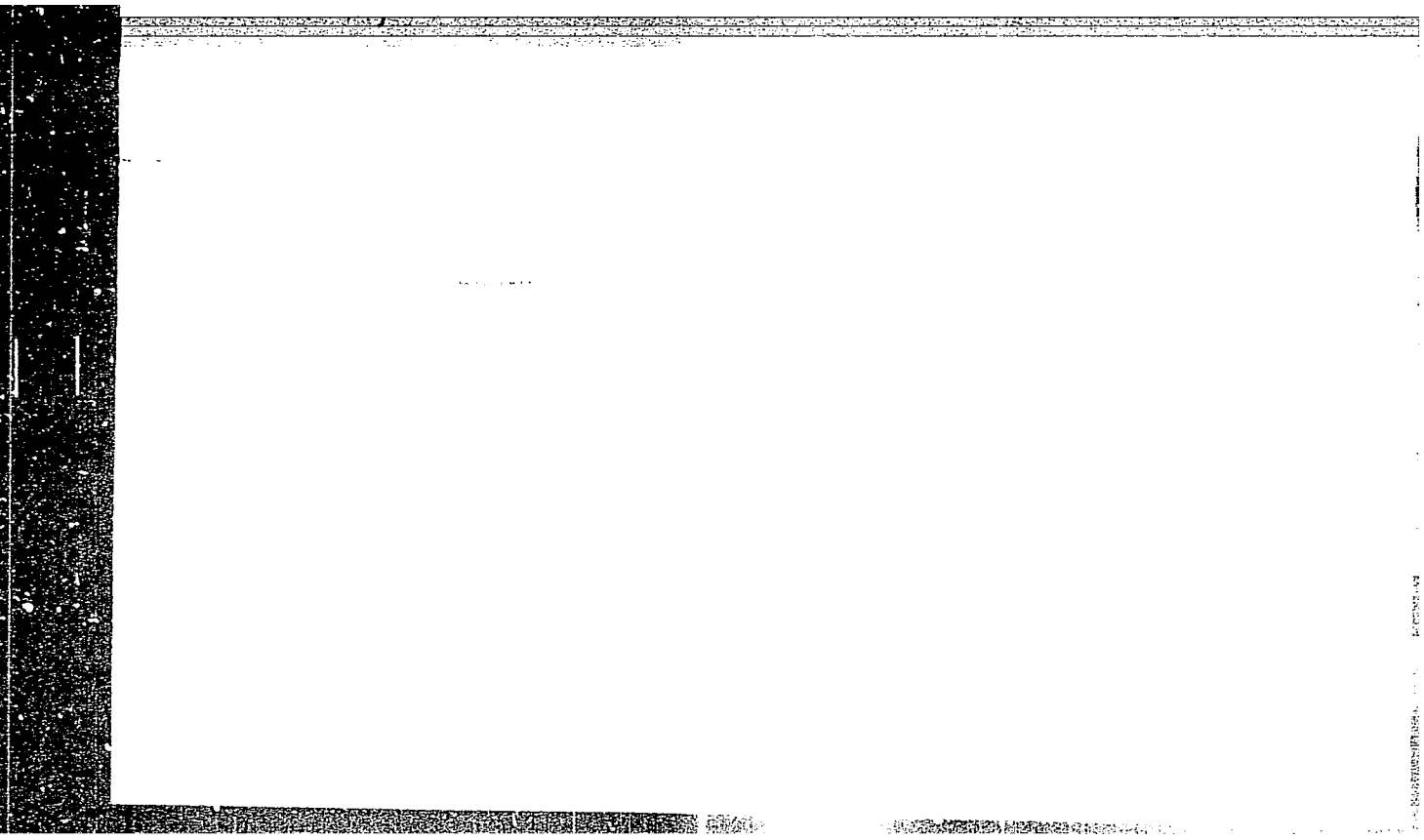


CHERNINA, G.E.
CA

22

Mordants for chrome dyes on silk. S. G. Kulygin and G. E. Chernina. *Trudy Tsentral. Nauch.-Issledovatel. Inst. Shelka* 1939, No. 2, 97–8; *Khim. Referat. Zhur.* 1940, No. 1, 115; cf. C. A. 35, 1053⁹.—A method for the production of Cr lactate is described. Addn. of Cr lactate alone is sufficient for fixing most dyes on fibers and for imparting a satisfactory shade and softness. A typical method for producing dyes contg. this mordant are given.
W. R. Henn

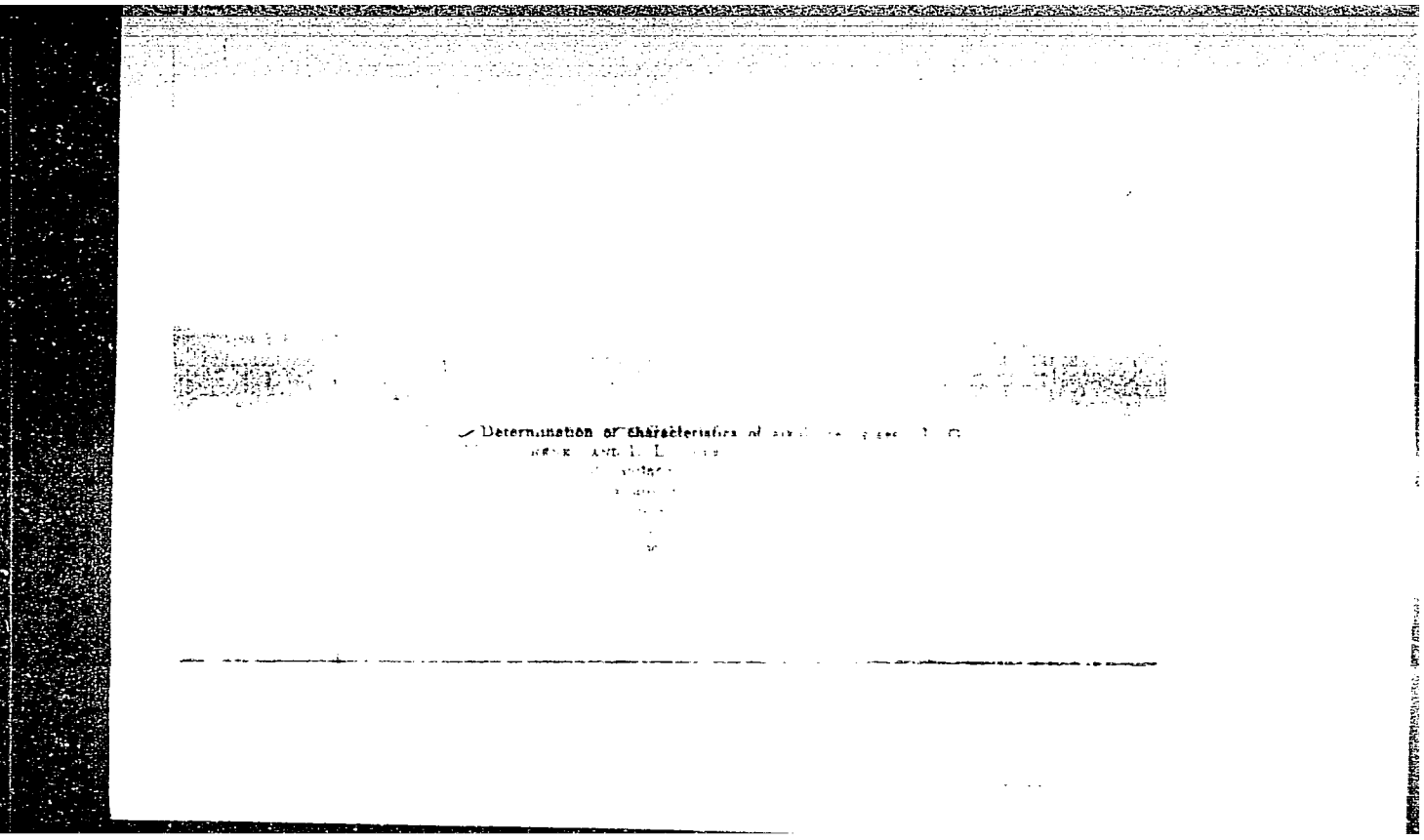




APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308520006-7"

CHERNINA, G.Ye.

Obtaining shade effects in natural silk printing using vat dyes. Obm. tekh. opyt. [MLP] no.9:13-14 '56. (MIRA 11:10)
(Silk printing)



Determination of characteristics

CHERNINA, L.L.; ORZHEVSKIY, V.I.; OLEYNIKOVA, A.N.

Introducing electrically melted baddeleyite-corundum refractory material "Zirconate." Biul.tekh.-ekon.inform.Gos.nauch.-issl. inst.nauch.i tekh. inform. 18 no.9:11-12 S '65. (MIRA 18:10)

TIMOSHENKO, I.V.; PAVLYUKOVA, G.V.; BORISOV, A.F.; SUSLOVA, I.A.; CHERNINA, L.L.

Using vibration to improve the quality of electrocast refractories.
Ogneupory 29 no.11:496-499 '64. (MIRA 18:1)

1. Saratovskiy filial Nauchno-issledovatel'skogo instituta stekla.

CHERNINA, L.L., inzh.

Effect of technological factors on the structure of baddeleyite-corundum refractories. Stek. i ker. 22 no.10:19-21 O '65. (MIRA 18:12)

1. Saratovskiy zavod tekhnicheskogo stekla.

TOKALEVICH, V.L.; CHERNINA, M.O., inzh.

Competition for the title "Shop of the efficiency experts." Vest. sviazi 25 no.2:27 F '65. (MIRA 18:6)

1. Glavnyy inzh. Minskogo telegrafa (for Tokalevich).

CHERNINA, N. D.

Chernina, N. D. - "The first scientific session of the Moscow Scientific Research Institute of Prosthesis," (May 19-20, 1948), Trudy Tsentr. nauch.-issled. in-ta protezirovaniya i protezostroyeniya, symposium 3, 1949, p. 5-10

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

CHERNINA, N. P.

Chernina, N. P. - "Types of leg stumps," Trudy Tsentr. nauch.-issled. in-ta protezirovaniya i protezostroyeniya, symposium 3, 1949, p. 190-203

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

CHERNINA, N.P., doktor med. nauk; SOKOV, A.M., kandidat tekhnicheskikh nauk

New method of application of prostheses to leg stumps. Ortop. travm.protez. Moskva no.1:61-65 Ja-F '55. (MLRA 8:10)

Iz TSentral'nogo instituta protezivovaniya i protezostroyeniya Ministerstva sotsial'nogo obespecheniya RSFSR (dir. prof. B.P. Popov)

(ARTIFICIAL LIMB,
leg, application technic)

CHERNINA, N.P., doktor meditsinskikh nauk

Morphologic characteristics of leg stumps. Ortop., travm. protez. S-O '56. (MLRA 10:1)

1. Iz morfologicheskoy laboratorii (zav. - prof. P.P.Dvizhkov) TSentral'nogo nauchno-issledovatel'skogo instituta protezirovaniya i protezostroyeniya (dir. - prof. B.P.Popov) Ministerstva sotsial'nogo obespecheniya RSFSR.

(AMPUTATION STUMPS, pathol.
leg, degen.)

CHERNINA, N.P., doktor meditsinskikh nauk

Indications and contraindications for prosthesis for patients with endocarditis obliterans. Ortop.travm. i protez. 17 no.6:123-124 N-D '56. (MLRA 10:2)

1. Iz TSentral'nogo nauchno-issledovatel'skogo instituta protezirovaniya i protezostroyeniya (direktor - professor B.P.Popov)
(ENDOCARDITIS) (PROSTHESIS)

CHERNINA, N. P.

USSR / Human and Animal Morphology (Normal and Pathological). General Problems. S-1

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78963.

Author : Chernina, N. P.
Inst : Not given.
Title : Morphological Characteristic of the Lower Leg Stump.

Orig Pub: Ortopediya, travmatol. i protezir., 1956, No 5, 12-16.

Abstract: Sixty-five lower leg stumps (LS) removed from patients were studied macro - and microscopically, 1½ months - 30 years after the amputation of the extremity. The muscular, fatty, fibrous tissues and combined types of LS are distinquished. A description is given of each of them.

Card 1/2

USSR / Human and Animal Morphology (Normal and Pathological). General Problems. S-1

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78963.

Abstract: Processes of atrophy and degeneration in the muscles of LS are individually variable. Often there is well-developed musculature a long time after the amputation of the LS.

Card 2/2

CHERNINA, N.P., doktor med.nauk

Foot and footwear. Zdorov'e 6 no.8:26 Ag '60. (MIRA 13:8)
(FOOT—CARE AND HYGIENE) (BOOTS AND SHOES)

CHERNINA, N.P., doktor med.nauk; DAVYDOVA, V.P., kand.biol.nauk; KORYUKIN, V.I., inzh.

Weight-bearing on the heads of the metatarsal bones according to electrodynamographical data. Ortop., travm. i protez. 21 no.8: 36-42 Ag '60. (MIRA 13:11)

1. Iz TSentral'nogo nauchno-issledovatel'skogo instituta protezirovaniya i protezostroyeniya Ministerstva sotsial'nogo obespecheniya RSFSR (direktor - zasluzhennyy deyatel' nauki prof. B.P.Popov). (FOOT)

CHERNINA, N.P., doktor med.nauk

Calcaneal spur. Zdorov'e 7 no.6:22 Je '61. (MIRA 14:7)
(HEEL BONE--DISEASES)

CHERNINA, N.P., doktor med.nauk; DAVYDOVA, V.P., kand.biol.nauk; KORYUKIN, V.I., inzh.

Load distribution on the foot in standing and walking. (Electrodynamographic studies). Ortop.,travm.i protez. no.7:40-45 '61. (MIRA 14:8)

1. Iz TSentral'nogo nauchno-issledovatel'skogo instituta protezirovaniya i protezostroyeniya Ministerstva sotsial'nogo obespecheniya RSFSR (dir. - zasluzh. deyatel' nauki prof. B.P. Popov).
(FOOT) (POSTURE) (WALKING)

CHERNINA, N.P., doktor med. nauk (Moskva, G-69, ul. Pisemskogo d. 12, kv.33)

Nature of changes in the pressure on the sole of the foot in relation to height of the heel of the shoe. Ortop.,travm. i protez. 25 no.2:20-25 F '64. (MIRA 18:1)

CHERNINA, N.V.

Treatment of chronic tonsillitis and adenoids in children, carriers of diphtheria bacilli. Vestn. otorinolaring. 25 no.3:71-76 '63 (MIRA 17:1)

1. Iz otdeleniya bolezney ukha, nosa i gorla (zav. - kand. med. nauk G.A. Chernyavskiy Moskovskoy detskoy klinicheskoy bol'nitsy No.2 imeni I.V.Rusakova.

CHERNINA, N.V.

Tellurite test in carriers of diphtheria bacillus following tonsillectomy. Lab. delo 10 no.3:178-181 '64. (MIRA 17:5)

1. Otdeleniye bolezney ukha, gorla i nosa (zaveduyushchiy - kand. med. nauk G.A.Chernyavskiy) Detskoy gorodskoy klinicheskoy bol'nitsy No.2 imeni Rusakova (glavnyy vrach M.M.Kraseva).

CHERNINA, N.V. (Moskva)

Diphtheria carrier state in chronic tonsillitis and adenoids in children. Zhur. ush., nos. i gor. bol. 24 no.2:61-66 Mr-Ap '64 (MIRA 18:1)

1. Iz otdeleniya bolezney ukha, gorla i nosa (zav. - kand. med. nauk G.A. Chernyavskiy) Detskoy gorodskoy klinicheskoy bol'nitsy No.2 imeni I.V. Rusakova, Moskva.

CHERNINA, R. YA.

Jun 53

USSR/Medicine - Tularemia

"Epidemiological Significance of the Excrement of Dermacenter Marginatus Ticks in Tularemia," R. Ya. Chernina, Pyatigorsk Kray Antitularemia Sta (Stavropol' Kray Antitularemia Sta at Pyatigorsk?)

Zhur Mikro, Epid, i Immun, No 6, pp 58-61

Dermacenter marginatus ticks were infected with tularemia in the lab with the result that their excrement contained B. tularense B. Tularense were preserved for 7 days in the excrements under unfavorable conditions (e.g., 20-24° C at low humidity). Rubbing of the excrements into the scarified skin of the abdomen of mice infected the mice with tularemia. Infected eggs of the ticks did not develop into larvae. Infection of humans from tick-infested animals and hides is possible due to presence of tick excrement.

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3252. Chernine, V. S., State of [illegible] operated under flexible condition [illegible] 22, 133-149 [illegible] of binding of a [illegible] meeting an [illegible] series [illegible] other cons[illegible] a special [illegible]

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308520006-7"

CHERNINA, V.S.

Chernina, V.S., Cand Tech Sci -- (diss) "Deformation of Tore-shaped Casings Under a Non-axially Symmetrical Load." Len 1958, 7 pp (Min of Higher Education USSR. Len Polytech Inst im M.I.Kalinin) 100 copies (KL, 21-58, 91)

SOV/24-58-7-5/36

AUTHOR: Chernina, V.S. (Leningrad)

TITLE: Bearing Capacity of Annular Plates Under a Uniformly Distributed Pressure (Nesushchaya sposobnost' kol'tsevoy plastiny, nagruzhennoy ravnomerno-raspredelennym davleniyem)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, 1958, Nr 7, pp 33 - 39 (USSR)

ABSTRACT: Formulae are derived for the bearing capacity of an annular plate having external radius a and internal radius b when both the boundaries are either supported or clamped and when allowance is made for plastic flow in the material. The variables involved are the two radii a and b , the plate thickness, the flow limit of the material and the applied pressure. The resulting formulae are rather complicated and in the case of the clamped plate graphs are given (Figures 6 and 7) to facilitate the evaluation of the solution.

Card 1/2

SOV/24-58-7-5/36

Bearing Capacity of Annular Plates Under a Uniformly Distributed Pressure

There are 7 figures and 4 references, 3 of which are Soviet and 1 English.

SUBMITTED: March 20, 1958

Card 2/2

AUTHOR: Chernina, V. S. (Leningrad) SOV/179-59-3-14/45

TITLE: The State of Tension of a Toroid Shell of Medium Thickness (Napryazhennoye sostoyaniye toroobraznoy obolochki sredney tolshchiny)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 3, pp 96-104 (USSR)

ABSTRACT: An attempt is made to apply the calculations made by E. Reissner (Ref 1) and P. Naghdi (Ref 2) to the case of a toroid shell. The formula (1.1) is employed as the basic equation, to which are added Eq (1.2), defining the distribution of tension, and Eq (1.3) which are the static equations usually applied to a shell (Fig 1), where R_1, R_2 - radii of the metal part of the surface. The displacements in the shell are defined by Eqs (1.5) to (1.7). Thus, Eq (1.3) can be written as the elastic relations, Eq (1.9) for the conditions (1.10) and (1.11), where H_e - thrust, Δ_e - radial displacement. The conditions of equilibrium of the shell can be expressed as the projection on the vertical and horizontal axis. Then, instead of two first equations of Eq (1.3), the

The State of Tension of a Toroid Shell of Medium Thickness

expression (2.1) is obtained which is identical to Eqs (2.2) and (2.3) ($P_z^o/2\pi\nu_o$ - axial stress per unit of length at the extreme cross-section of the shell). The moments M_1 and M_2 (Eq 2.4) can be expressed in terms of the function V and ϑ which are obtained from Eqs (2.5) and (2.7, top p 99). The last two formulae can be applied to the toroid shell (Eqs 3.3) and (3.4) if the formulae (3.1) and (3.2) are introduced (Fig 2). In a case when the load is constant, i.e. $q_n = p$ (Eq 3.6), the expressions (3.8) and (3.9) or Eq (3.10) are obtained from Eqs (3.2) and (3.3). The complex function in this case will take the form of Eq (3.12) with its solution expressed by Eqs (3.13) and (3.14). The thrust and the bending moments are expressed by the variables v_1 and ψ_1 according to the formulae (3.17) to (3.19). The deflection angle and the axial displacement are found from Eqs (3.20) and (3.21). As an example a toroid shell, cut parallel to the circle

Card 2/4 $\Theta_o = \pi/2$, is considered for the conditions described

by Eq (4.1) which, according to Eqs (2.2), (3.1) and (3.7) can be expressed as Eq (4.2). The latter is determined when σ_o and σ_1 are calculated from the trigonometric series, Eqs (4.3), (4.4) and (4.5) (Ref 3). Substituting Eq (4.3) into the right term of Eq (3.15) and denoting it as $F(\Theta)/(\lambda + \sin\Theta)$, the expressions (4.6) to (4.8) are obtained. The values of c_1 and d_2 are found with the first approximation from the first two equations of (4.8) for the conditions, Eq (4.9). Therefore, the values of c_1, d_2, c_3 and d_4 are found from the first four equations of Eq (4.8) for the conditions (4.10). Figs 3 and 4 illustrate the results of calculations of a toroid shell of the geometrical dimensions given in Eq (4.11). The continuous lines correspond to the distribution of T_1, T_2, N_1 and moments M_1 and M_2 obtained from Eqs (3.17) and (3.18). The dashed lines, representing thin shells, are introduced for comparison. Figs 5, 6 and 7 show the curves of $\sigma_{1,0}$, $\sigma_{1,i}$, $\sigma_{2,i}$, $\sigma_{2t,0}$, $\sigma_{2t,i}$ calculated from the formulae (4.12) to (4.14), where 0 corresponds to

SOV/179-59-3-14/45

The State of Tension of a Toroid Shell of Medium Thickness

$\zeta = 1/2h$ and i to $\zeta = -1/2h$.

There are 7 figures and 3 references, one of which is Soviet and 2 English.

SUBMITTED: February 23, 1959

Card 4/4

CHERNINA, V.S. (Leningrad)

Elastic-plastic bending of an annular plate. Prykl. mekh. 5 no.3: 296-307 '59. (MIRA 13:2)

1. Tsentral'nyy konstruktorskiy institut.
(Elastic plates and shells)

69299
S/179/60/000/01/017/034
E081/E535

24.4100

AUTHOR: Chernina, V.S. (Leningrad)

TITLE: Elasto-plastic Deformation of a Welded Heterogeneous Cylindrical Shell

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, Nr 1, pp 133-140 (USSR)

ABSTRACT: It is assumed that the shell is infinitely long, that it consists of two parts made of different materials (Fig 1), and that at the heat-treatment temperature θ_o, the stresses in the shell vanish. On cooling from θ_o to some temperature θ the lengthwise deformation is not homogeneous because one part of the shell possesses a high thermal expansion coefficient and is, therefore, in tension, whereas the other part is in compression. If the difference between the thermal expansion coefficients is appreciable, the stresses produced on rapid cooling reach the flow limit and the shell deforms elasto-plastically. In the case of ideal plasticity, the equilibrium equations (1.2) lead to the

Card 1/4

Elasto-plastic Deformation of a Welded Heterogeneous Cylindrical Shell

differential equation (1.4) for the radial displacement w, of which the solution can be put in the form (1.5). The circumferential stresses $T_2^{(1)}$ and $T_2^{(2)}$ and and bending moments $M_1^{(1)}$ and $M_1^{(2)}$ in the first and second materials respectively are given by (1.6) and the maximum bending stress by (1.7). If the flow limit is σ_{s1}, the temperature (θ_1) at which plastic deformation arises is given by (1.9). The plasticity conditions (1.10) represent a square in the m,t plane (Fig 2), where $t = T_2/\sigma_{s1}h$, $m = 4M_1/\sigma_s$, h^2, and h is the wall thickness. A detailed analysis of the elastic and plastic zones in the shell leads to Eq (1.28) for determining the length of the plastic zone. For a linear hardening material, the stress-strain curve is as shown in Fig 3, and the analysis in this case leads to the equation (2.17) for determining the relative length of the plastic zone. As an example, the stresses in a

Card 2/4

IX

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S/179/60/000/01/017/034
E081/E535

Elasto-plastic Deformation of a Welded Heterogeneous Cylindrical Shell

welded pearlite-austenite shell are calculated on cooling from the heat-treatment temperature $\theta_o = 650°C$ to $\theta = 20°C$. The dimensions of the shell and the properties of the materials are as follows:

$R = 23.75$ cm, $h = 12.5$ cm, $\sigma_{s1} = 2000$ kg/cm^2

$\sigma_{s2} = 5000$ kg/cm^2, $\alpha_1 = 17.7 \times 10^{-6}$ °C^{-1},

$\alpha_2 = 13.8 \times 10^{-6}$ °C^{-1}, $E = 2 \times 10^6$ kg/cm^2

$$\beta = \sqrt{\frac{3}{2}\frac{R}{h}} = 1.69, \quad \rho = 10, \quad \beta_1 = \frac{\beta}{\sqrt{\rho}} = 0.951$$

$$\frac{E}{\sigma_{s1}}(\alpha_1 - \alpha_2)(\theta_o - \theta) = 2.46$$

Card 3/4 α_1 and α_2 are thermal expansion coefficients, E is

69299

S/179/60/000/01/017/034
E081/E535

Elasto-plastic Deformation of a Welded Heterogeneous Cylindrical Shell

Young's modulus, σ_{s1} and σ_{s2} are the flow limits, R and h are the radius and thickness of the shell (presumably but this is not stated explicitly in the paper - abstractor's note). Using the relations (1.28) (1.18 in the paper but this is obviously a misprint - abstractor's note) and (2.17), the length of the plastic zone is found to be 2.80 cm for an ideally plastic law, and 2.87 cm for a linear hardening law. In Fig 4 the distribution of T_2 (curves 1) and M_1 (curves 2) along the axis of the shell is shown as calculated by Eqs (1.26) and (2.19). The dashed curves are for an ideally plastic material and the continuous curves are for a linear hardening material. There are 4 figures and 7 references, 5 of which are Soviet and 2 English.

SUBMITTED: April 7, 1959

Card 4/4

S/179/60/000/03/012/039
E081/E441

AUTHORS: Kruz, Z. and Savchuk, A. (Varshayea); V.S.Chernina, Author of Comments

TITLE: Bearing Capacity of a Ring-Shaped Plate, Clamped on Both Edges

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, Nr 3, pp 72-78 (USSR)

ABSTRACT: The paper is a continuation of earlier work (Ref 3). The problem has been previously investigated in Ref 2 and 3, among others. The results of these two investigations do not agree because Chernina (Ref 2) did not take the flow conditions completely into account. In the present paper, the material of the plate is assumed to be rigid - plastic without hardening and to be subject to the Mises-Tresca plasticity conditions. The radial and tangential bending moments are M and N respectively. The generalized deformation velocities are given by Eq (1.1), where w is the deflection velocity, and assuming the existence of a plastic potential, the flow law is such that the deformation velocity vectors are perpendicular to the Coulomb-Tresca

Card 1/3

S/179/60/000/03/012/039
E081/E441

Bearing Capacity of a Ring-Shaped Plate, Clamped on Both Edges

hexagon (Fig 1). For a plate with both edges freely supported, the analysis of Section 2 leads to Eq (2.15) for the bearing capacity of the plate, where q is the uniform load on the plate. For a plate rigidly fixed at the outer boundary, freely supported at the inner (Fig 3), the static field is given by Eq (3.1); the equations (3.2) determine the radii ρ_1, ρ_2, ρ_3 in the non-dimensional form $a/b = k$, $\rho_1/b = x_1$, $\rho_2/b_2 = x_2$ $\rho_3/b = x_3$; the bearing capacity is given by Eq (2.15); the kinematic field is given by Eq (3.3). For a plate fixed on the internal boundary, freely supported on the outer (Fig 4), the static field is given by Eq (4.1); the radii by Eq (4.2); the bearing capacity by Eq (4.3) and the kinematic field by Eq (4.4). For a plate clamped on both boundaries (Fig 5), the static field, the radii and the bearing capacity are given by Eq (5.1), (5.2) and (5.3) respectively. Fig 6 gives the curves of limiting load $\varphi = qb^2 / M_o$ for a plate supported on both boundaries (curve a); for a plate clamped on the external boundary and freely supported on the internal

Card 2/3

S/179/60/000/03/012/039
E081/E441

Bearing Capacity of a Ring-Shaped Plate, Clamped on Both Edges

boundary (curve b); and for a plate clamped on the internal boundary and supported on the external boundary (curve B). There are 6 figures and 4 references, 2 of which are Soviet, 1 Polish and 1 English.

Comments to this article by V.S.Chernina

The author of the comments notes that simultaneously with the solution given by Z. Kruz and A. Savchuk of the problem defined in the title, the same solution was obtained by P.G.Hodge (Yield Point Load of an Annular Plate, J.Appl.Mech, Sept 1959). A correction is introduced into a previous paper by the author of the comments (The Carrying Capacity of an Annular Plate Loaded by a Uniformly Distributed Pressure, Izvestiya Akademii nauk SSSR, OTN, 1958, Nr 7). The author acknowledges that the bearing capacity derived in her abovementioned paper is a lower limit only.

VC

SUBMITTED: May 25, 1959

Card 3/3

CHERNINA, V.S. (Leningrad)

Designing toroidal shells. Izv. AN SSSR. Otd.tekh.nauk.Mekh.i mashinostr. no.4:116-123 Jl-Ag '61. (MIRA 14:8)
(Elastic plates and shells)

CHERNINA, V.S., kand.tekhn.nauk

Stressed state of a lense-type compensator. Energomashinostroenie 7 no.7:20-23 Jl '61. (MIRA 14:8)
(Gas turbines—Equipment and supplies)

CHERNINA, V.S. (Leningrad)

Design of shells of rotation on uniform elastic foundations. Izv.AN SSSR.Otd.tekh.nauk.Mekh.i mashinostr. no.5:95-101 S-O '62. (MIRA 15:10)
(Elastic plates and shells)

S/879/62/000/000/021/088
D234/D308

AUTHOR: Chernina, V. S. (Leningrad)

TITLE: Estimation of rigidity and stressed state of end walls of turbine casings compensators, and some kinds of corrugated membranes

SOURCE: Teoriya plastin i obolochek; trudy II Vsesoyuznoy konferentsii, L'vov, 15-21 sentyabrya 1961 g. Kiev, Izd-vo AN USSR, 1962, 165-168

TEXT: Using the results of S. A. Tumavkin (PMM, v. XXIII, no. 6, 1959) and V. S. Chernina (Energomashinostroyeniye, 7, 1961) the author gives expressions for the axial displacement and maximum bending stress of 1) an end wall containing a toroid with span angle :

$$\Delta \frac{I}{z} = \frac{2a^3}{Eh^2} G\sqrt{12(1-\mu^2)}\frac{\pi r}{2} = \frac{p\pi a^3}{Eh^2}\sqrt{3(1-\mu^2)}\left(\lambda^2 - \frac{\nu_0^2}{a^2}\right) \qquad (2)$$

Card 1/2

Estimation of rigidity ...

$$|\sigma_{1max}| = |\sigma_1(\theta_m)| = \frac{3a\mu_1^2}{h^2\sqrt{12(1-\mu^2)}}\, p\left(\lambda^2 - \frac{\nu_o^2}{a^2}\right) 0.754 \qquad (3)$$

which can also be applied to a tubular compensator subject to an axial force, 2) an end wall containing 1/4 or 3/4 of a toroid, 3) a corrugated membrane consisting of toroidal parts. There are 5 figures.

Card 2/2

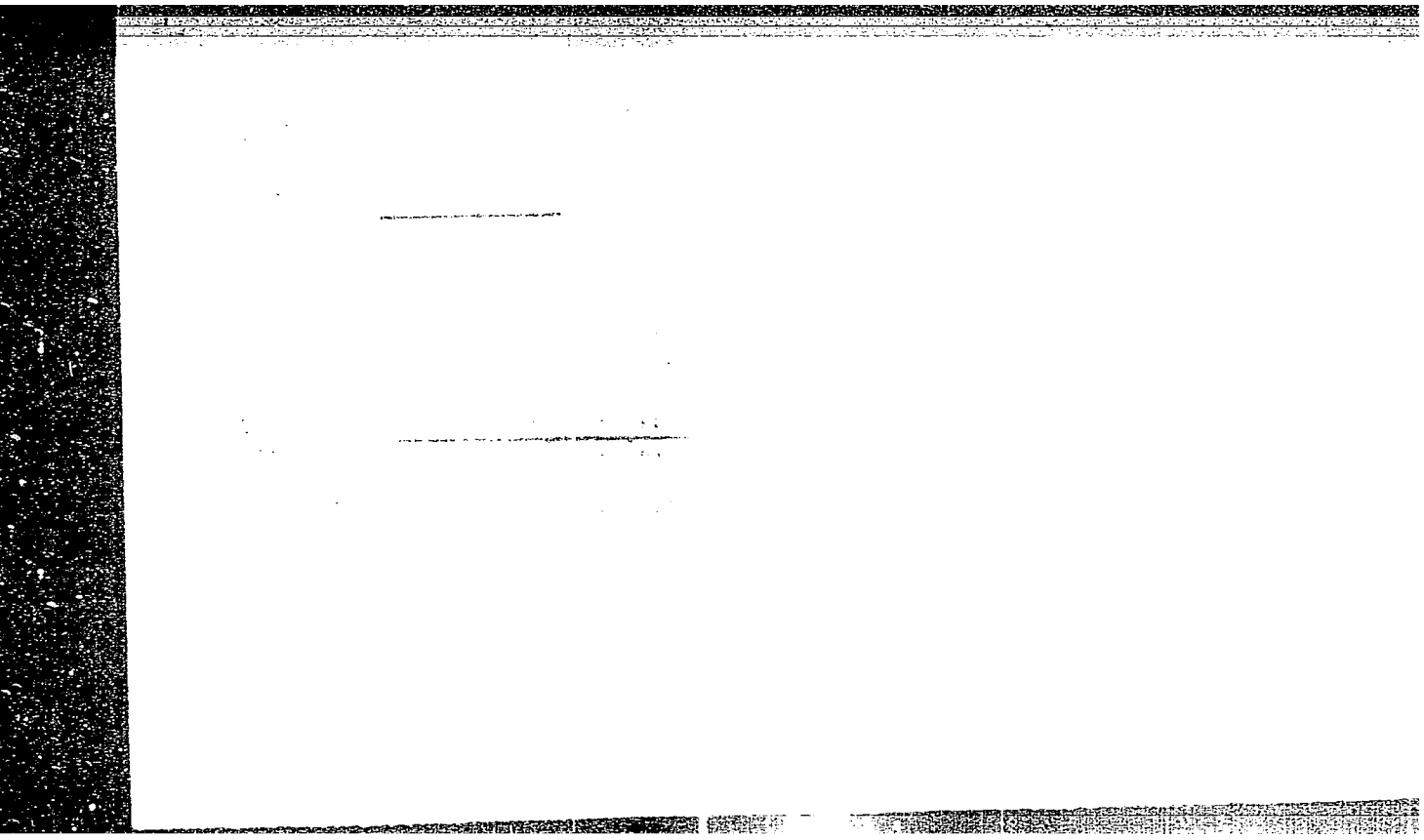
CHERNINA, V.S., kand. tekhn. nauk

Evaluation of the rigidity and stressed state of the face walls of steam turbine housings. Energomashinostroenie 9 no.5:15-20 My '63. (MIRA 16:7)

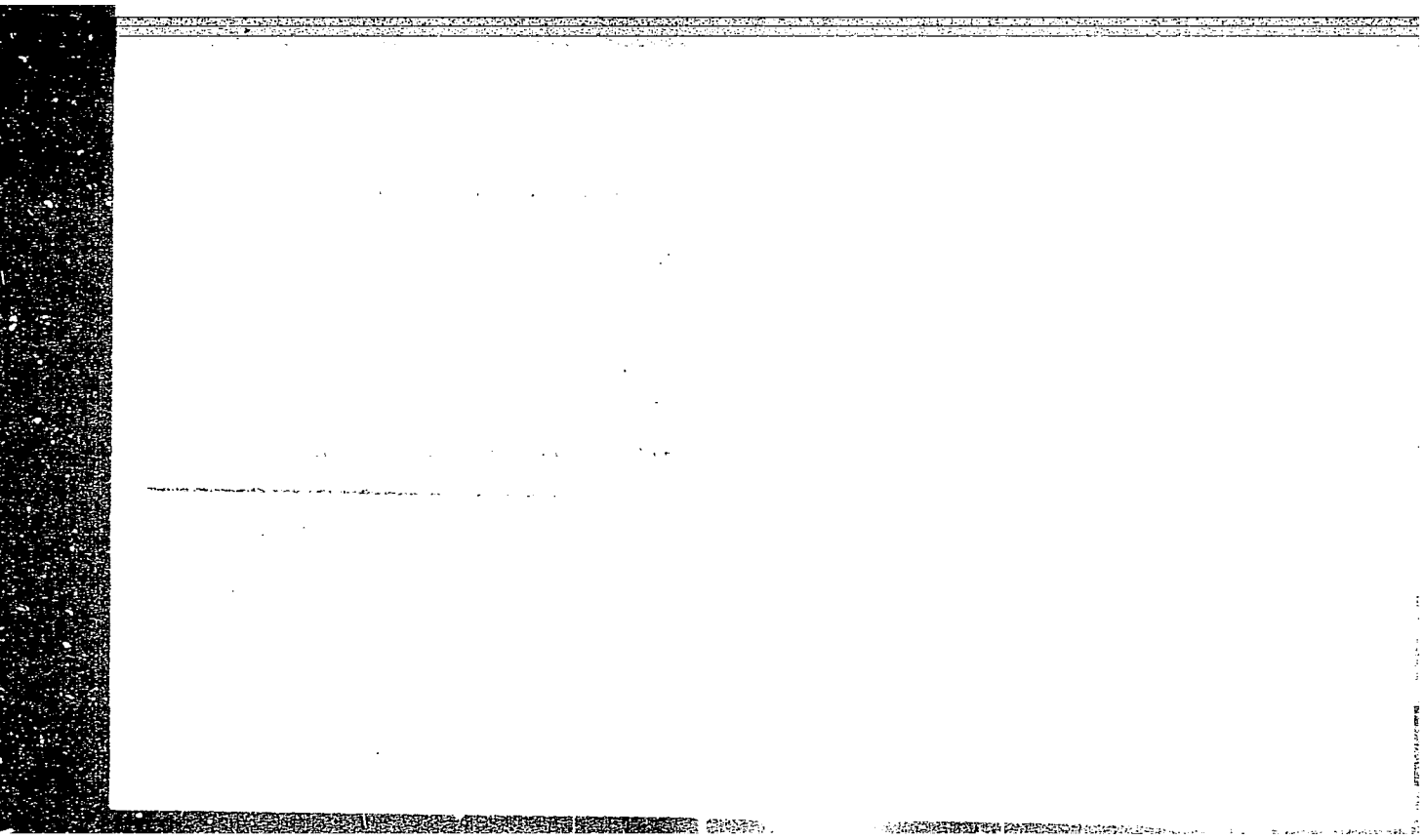
(Steam turbines)

ROZENBLYUM, V.I., kand. tekhn. nauk; CHERNINA, V.S., kand. tekhn. nauk

Calculation of the strength of turbine diaphragms.
Energomashinostroenie 9 no.10:34-35 O '63. (MIRA 16:10)



APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308520006-7"



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CHERNINA, V.S. (Leningrad)

Deformation of a spherical shell under the action of a bending load. Izv.AN SSSR. Mekh. i mashinostr. no.4:60-66 Jl-Ag '63. (MIRA 17:4)

CHERNINA, V.S.

Strain on a vertically position ' telescope mirror under its own weight. Izv. GAO 24 no.1:125-137 '64. (MIRA 18:3)

1. Kafedra dinamiki i prochnosti mashin Leningradskogo politekhnicheskogo instituta imeni Kalinina.

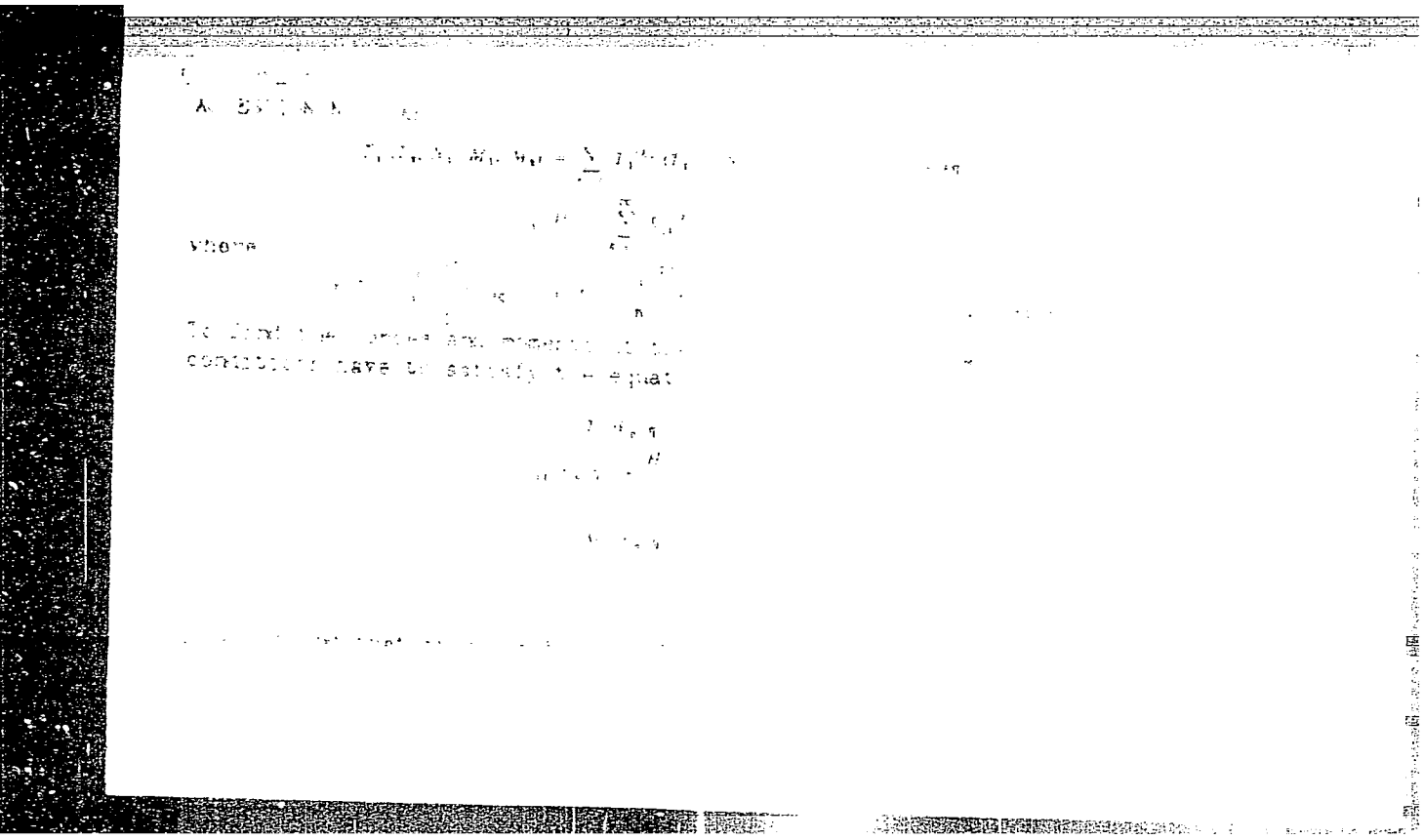
[illegible]

ABSTRACT: The deformations of a sp[illegible] trated load applied at point $\theta = \theta_{[illegible]}$ theoretically investigated. The [illegible] deformation given by A. I. Lur'ye [illegible] Gostekhizdat, [illegible] the ψ, β [illegible] coordinates (simple coordinate tra[illegible]

[illegible] $M_{[illegible]}$, [illegible]

in the spherical shell were derived [illegible] of the symmetry of the equations, the forces and moments could be expressed as [illegible]

Card 1/4



L 63271-65
ACCESSION NR: AP5016238

$P_k \cos k\theta$ where $h = \frac{p}{\pi \sin \theta_0}$. The [illegible] and moment [illegible] presented for the above loading and [illegible] art. has: 36 formulae.

ASSOCIATION: none

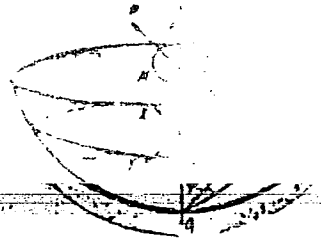
SUBMITTED: 11Jan64 ENCL:

NO REF SOV: 005 OTHER: 0??

Card 3/4

L 03271-65

ACCESSION NR: AP5016210



Card 1/1

EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k)/EWA(h)/ETC(m) WW/EM
ACC NR: AT5028838 SOURCE CODE: UR/2563/65/000/252/0114/0124

AUTHOR: Chernina, V. S.

ORG: Leningrad Polytechnic Institute (Leningrad. Politekhnicheskiy institut)

36
B+1

TITLE: The stress state in a shell of rotation under nonaxisymmetric temperature distribution

24

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy. no. 252. 1965. Dinamika i prochnost'mashin; mekhanika i protsessy upravleniya (Dynamics and durability of machines; mechanics and processes of control) 114-124

TOPIC TAGS: stress analysis, shell theory, approximation method, temperature distribution

ABSTRACT: The thermal stress distribution along the ends of a shell is calculated for a temperature field given by

$$t(\theta, \varphi) = t_{(1)}(\theta)\cos\varphi .$$

In part I, the temperature distribution is assumed to be linear, expressed by

$$t(\theta, \varphi) = t^{m}(\theta, \varphi) + \frac{\zeta}{h}\Delta t(\theta, \varphi).$$

It is attempted to find the particular temperature distribution for which the shell remains free of stresses, $T_1 = T_2 = S = M_1 = M_2 = H = 0$. This leads to a set of three differential equations of the type

Card 1/3

$$\left.\begin{aligned} &\frac{\partial}{\partial\theta}(v\varkappa) - R_1\varkappa\cos\theta - \frac{1}{R_1}\cdot\frac{\partial(v\varepsilon)}{\partial\theta} + \varepsilon\cos\theta = 0;\\ &R_1\frac{\partial\varkappa}{\partial\varphi} - \frac{R_1\sin\theta}{v}\cdot\frac{\partial\varepsilon}{\partial\varphi} = 0;\\ &(v + R_1\sin\theta)\varkappa + \frac{\partial}{\partial\theta}\left[-\varepsilon\cos\theta + \frac{1}{R_1}\cdot\frac{\partial(v\varepsilon)}{\partial\theta}\right] + \frac{R_1}{v}\cdot\frac{\partial^2\varepsilon}{\partial\varphi^2} = 0, \end{aligned}\right\}$$

the solution of which is given in terms of trigonometric functions in the form

$$t^m(\theta, \varphi) = \sum_{k=0}^{\infty}\left[t^m_{(k)}(\theta)\cos k\varphi + t^{m(k)}_{(}\theta)\sin k\varphi\right].$$

It is shown that for $k \geq 2$ there exists no stress-free temperature distribution in the shell. For $k = 1$ the temperature distribution is given by

$$t(\theta, \varphi) = K + A_0\left(-\int_{\theta_0}^{\theta} R_1\sin\theta\, d\theta + \zeta\cos\theta\right) +$$

$$+ A_{(1)}(v + \zeta\sin\theta)\cos\varphi + A^{(1)}(v + \zeta\sin\theta)\sin\varphi,$$

and the various deformation amplitudes are calculated, assuming a linear temperature distribution. In part II, the case of asymmetric temperature distribution is studied where the stresses and strains possess the following characteristics

$$\left.\begin{aligned} &(T_1, T_2, M_1, M_2, \varepsilon_1, \varepsilon_2, \varkappa_1, \varkappa_2) = (t_1, t_2, m_1, m_2, \varepsilon_{1(1)},\\ &\qquad \varepsilon_{2(1)}, \varkappa_{1(1)}, \varkappa_{2(1)})\cos\varphi;\\ &(S, H, \gamma, \tau) = (s, h_{(1)}, \gamma_{(1)}, \tau_{(1)})\sin\varphi. \end{aligned}\right\}$$

The shell is assumed to be free of external loads, and a set of 19 equations is obtained of the type

$$Eh\varepsilon_{1(1)} = -\frac{\mu}{R_1}\cdot\frac{dV}{d\theta} + \frac{V(1-\mu)\cos\theta}{\nu} - \frac{Eh^3}{12}\cdot\frac{\sin\theta}{\nu}\left(\frac{1}{R_1}\cdot\frac{d\psi}{d\theta} + \frac{\psi\cos\theta}{\nu}\right) +$$
$$+ Eh\beta t^m_{(1)} + \frac{Eh^3}{12}\cdot\frac{\sin\theta}{\nu}\left(\frac{\beta\Delta t_{(1)}}{h} - \frac{\sin\theta}{\nu}\beta t^m_{(1)}\right),$$

allowing the determination of seven static quantities and seven deformation components. Orig. art. has: 46 equations.

SUB CODE: 20, 13/ SUBM DATE: none/ ORIG REF: 002

Card 3/3

CHERNINA, V.S. (Leningrad)

Designing a sperical shell subjected to the action of a concentrated tangential force. Izv. AN SSSR. Mekh. no.5:113-114 S-O '65.
(MIRA 18:10)

BERZIN', V.K. [Berzin, V.]; GLINSKAYA, Ye.V.; CHERNINA, Ye.A.

Results of diphtheria control in Riga. Zhur. mikrobiol. epid. i immun. 32 no.7:129-132 Je '61. (MIRA 15:5)

1. Iz Rizhskogo meditsinskogo instituta i Rizhskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(RIGA--DIPHTHERIA--PREVENTION)

CHERNINKOV, L.

"From our experience in the winter storage of acorns", p 324, (GORSKO STOPANSTVO, Vol 8, #7 Sept 1952, Bulgaria)

SO: Monthly List of East European Accessions, Vol 2 #8 Library of Congress, August 1953, Uncl.

RABINOVICH, Avram Nakhimovich, doktor tekhn. nauk; YAKHIMOVICH, Vladimir Aleksandrovich, inzh.; BOYECHKO, Bogdan Yulianovich, kand. tekhn. nauk. Prinimali uchastiye: KOBYLYUKH, B.F.; GAVRILYUK, V.I.; KAMYSHNYY, N.I., doktor tekhn. nauk, retsenzent; CHERNIS, N.Kh., inzh., retsenzent

[Automatic vibratory feed mechanisms] Avtomaticheskie zagruzochnye ustroistva vibratsionnogo tipa. Kiev, Tekhnika, 1965. 379 p. (MIRA 18:3)

CHERNIS, N. Ye.

25(5) PHASE I BOOK EXPLOITATION SOV/3220

Vsesoyuznyy nauchno-issledovatel'skiy institut po normalizatsii v mashinostroyenii

Novoye v tekhnologii mashinostroyeniya (New Developments in Machine Designing) Moscow, Mashgiz, 1959. 222 p. (Series: Its: Trudy, vyp. 1) Errata slip inserted. 5,500 copies printed.

Additional Sponsoring Agency: USSR. Komitet standartov mer i izmeritel'nykh priborov.

Ed.: G.B. Lur'ye, Doctor of Technical Sciences, Professor; Ed.: L.G. Prokof'yeva; Tech. Ed.: A.F. Uvarova; Managing Ed. for Literature on Machine Building and Instrument Construction: N.V. Pokrovskiy, Engineer.

PURPOSE: This book is intended for engineers and technicians in machine-building plants, design and planning enterprises, and scientific research organizations for machine-building technology. It may also be used by aspirants and students of advanced courses in Institutions of Higher Education and technical schools for machine building.

COVERAGE: The collection contains 10 articles which describe the theoretical and experimental work by the All-Union Scientific Research Institute for Normalization in Machine-Building (formerly VNIITMASh), carried out in 1956-1957 to investigate new equipment designs and progressive technique for manufacturing machine parts in different branches of general machine-building: hydraulic equipment building, textile- and sewing-machine manufacturing, etc. The article by N.Ye. Chernis which discusses a system of machine fitting using "Universal fixture attachments" (copyrighted in the Soviet Union by V.S. Kuznetsov and V.S. Ponomarev under Nr. 75777), may be of special interest. References accompany each article.

Card 3/4

8

SOV/123-59-22-91537

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 22, p 26 (USSR)

AUTHOR: Chernis, T.Sh.

TITLE: Optically Active Materials on the Base of Epoxide Resin

PERIODICAL: Izv. Kiyevsk. politekhn. in-ta, 1957, Vol 24, pp 299 - 303

ABSTRACT: The author suggests a new technology of model manufacture from optically active materials on the base of epoxide resins for the investigation of the strained state of machine parts. The chief advantage of the recommended resin grades EK-6, E-40 and E-41 is their cheapness.

Card 1/1

CHERNIS, T. Sh.: Master Tech Sci (diss) -- "Investigation of the concentration of stresses around rivet holes as applied to turbine plates". Kiev, 1958. 16 pp (Min Higher Educ Ukr SSR, Kiev Order of Lenin Polytech Inst), 100 copies (KL, No 3, 1959, 111)

CHERNIS, T.Sh.

Methodology of use and modernization of hydraulic testing machines with pulsators for cyclic tests beyond the creep strength. Izv. AN Kazakh. SSR. Ser. mat. i mekh. no.10: 93-97 '62. (MIRA 15:9)
(Hydraulic presses) (Strength of materials)

S/235/62/000/010/004/004
E193/E383

AUTHOR: Chernis, T.Sh.

TITLE: Behaviour of steels under pulsating loads higher than the yield point

PERIODICAL: Akademiya nauk Kazakhskoy SSR. Izvestiya. Seriya matematiki i mekhaniki, no. 10(14), 1962, 98 - 105

TEXT: The results of recent research on the plastic-working of metals have shown conclusively that considerable improvements can be achieved if a cyclic instead of a static load is applied to bring about plastic deformation. It is now generally agreed that this method ensures more uniform distribution of deformation throughout the volume of the metal, considerably reduces the contact friction, increases the workability of the metal by up to 40%, reduces the pressure required by up to 50% and gives better dimensional tolerances. No agreement has been reached, however, regarding the effect of cyclic loading on the characteristics of deformed metal. According to some workers, the plastic properties of the metal deformed by this method remains unaffected, its beneficial effect being solely due to decreased

Card 1/3

contact friction; others believe that cyclic loading brings about a considerable increase in the plasticity of the metal. The object of the present investigation was to study the effect of cyclic loading on the plastic properties of certain steels and to determine whether this effect depended on the frequency of loading. The experiments were conducted on three types of steel, containing 0.05, 0.35 and 0.37% C. In the first series of experiments the strain/stress diagrams were obtained for each steel to determine its yield point (σ_T), UTS (σ_B) and elongation. The experiments proper consisted of applying to the test piece a tensile stress $\sigma_T < \sigma > \sigma_B$, and then switching-on a pulsator, which caused the stress to vary between nil and σ at frequencies ranging from 333 - 1 000 c.p.m. Each test piece was loaded to fracture, both the stress/strain diagram and the total number of loading cycles being automatically recorded. In cases when the test piece ceased to deform plastically after a certain number of cycles, the frequency was increased sometimes more than once in the course of one experiment. The results obtained under various conditions were compared in terms of the relative applied

stress given by:

$$\sigma_{OTH} = \frac{\sigma - \sigma_T}{\sigma_B - \sigma_T}$$

Several conclusions were reached. 1) Application of a pulsating stress increases the workability of metals. Thus, for instance, elongation for steel containing 0.33% C and tested to fracture under a pulsating load equivalent to σ_{OTH} of 0.6 - 0.75 was approximately 40% against 33% elongation of a test piece tested to fracture under a static load. 2) The corresponding increase in the reduction of area is relatively small, amounting to 1 - 2%. This means that the increase in elongation is due to an increase in the uniform (as opposed to localized) deformation of the metal. 3) The change in the workability of cyclically-stressed metal depends on the loading frequency. 4) A lower force is required plastically to deform a metal under a pulsating stress. 5) The effect of pulsating stress on the resistance of steel to deformation depends on the composition and structure of the steel. There are 5 figures.

Card 3/3

S/145/62/000/006/005/005
D262/D308

AUTHORS: Chernis, T.Sh., Candidate of Technical Sciences, Savchenko, V.I., Assistant

TITLE: Optically active material for flat models used in investigation of mechanical and thermal stresses

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye, no. 6, 1962, 95-101

TEXT: A quick (3-hour) method of preparing a new material based on epoxide resin ЭД-6 (ED-6) and maleic anhydride is described in detail. Also the method of preparing special forms of steel and other materials to prevent adhesion of resin is presented. The mechanical properties of the material at room temperature: modulus of elasticity E, limit of proportionality and Poisson's coefficient are calculated. The effect of temperature on the limits of linear dependence of the optical constant, and the limits of linear dependence of the elasticity modulus are evaluated, taking into account the percentage of maleic anhydride, polymerization temperature and

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time and temperature of annealing. The coefficients of heat conductivity and thermal expansion are also found. In preparing models for investigation of thermal stresses the polymerization temperature should be increased to 130°C, and the plates obtained annealed at 140°C for 25 to 30 hours. There are 2 tables and 7 figures.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet (Kiev State University)

SUBMITTED: April 12, 1961

CHERNIS, T.Sh., dotsent

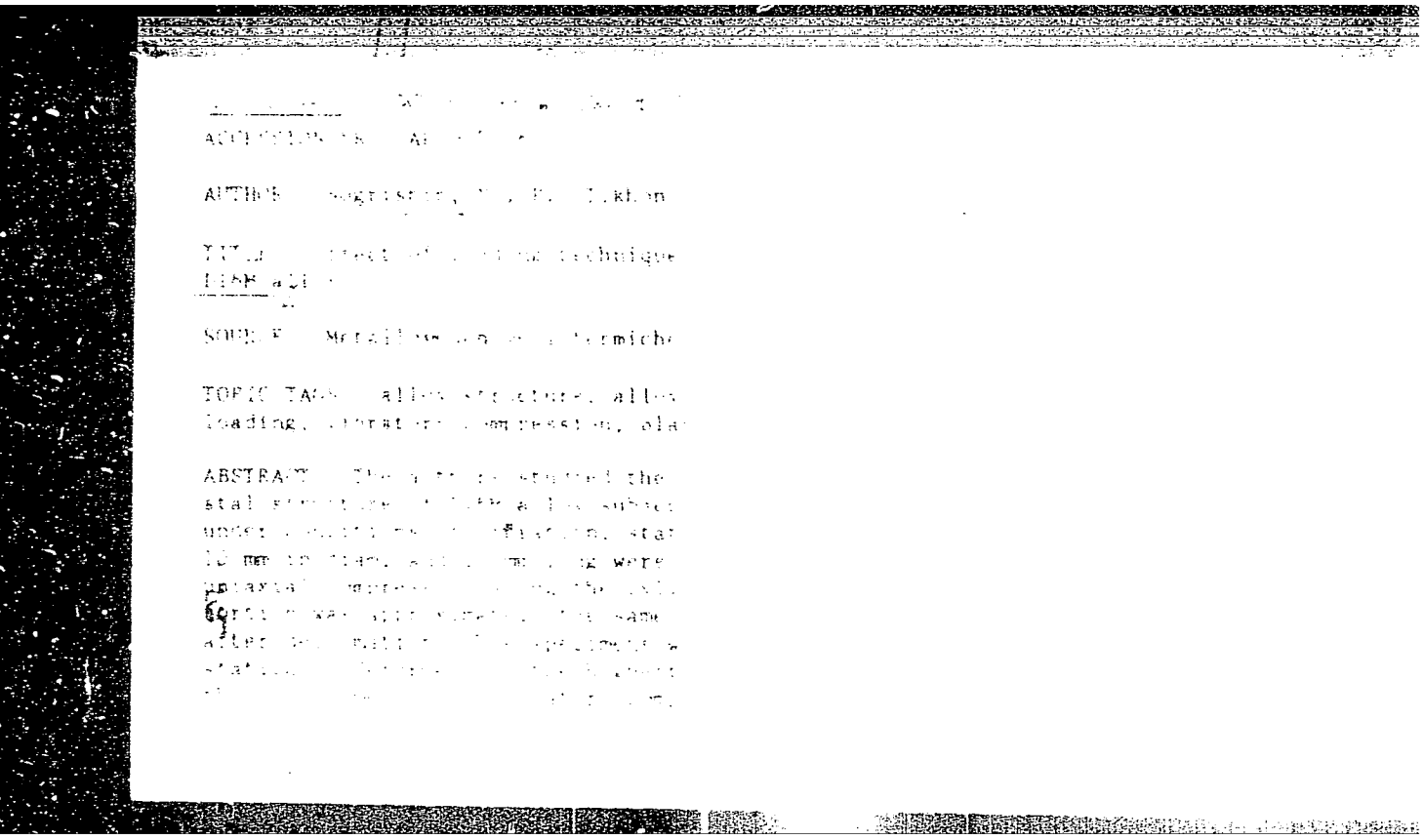
Stress concentration along a set of rivet holes parallell to the front edge. Izv.vys.ucheb.zav.; mashinostr. no.7:51-55 '63. (MIRA 16:11)

1. Kiyevskiy politekhnicheskiy institut.

SAVCHENKO, V.I.; CHERNIS, T.Sh.

Producing temperature fields in flat models during the studies of thermal stresses by the photoelasticity method. Zav.lab. 29 no.7:879-880 '63. (MIRA 16:8)

1. Kiyevskiy gosudarstvennyy universitet im. T.G.Shevchenko.
(Strains and stresses) (Photoelasticity)



ACCESSION NR: AP[illegible]

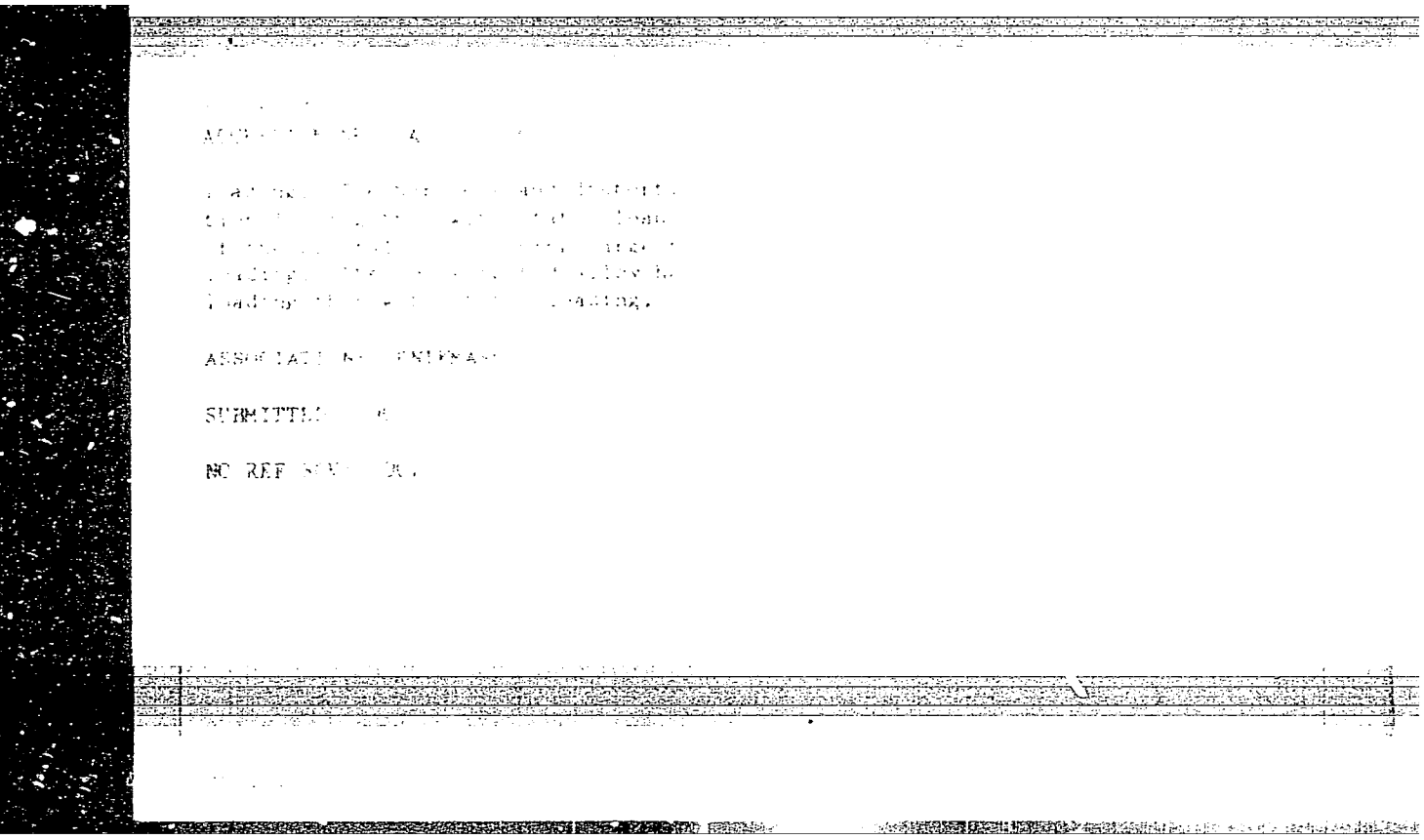
AUTHOR: [illegible]

TITLE: [illegible]

SOURCE: [illegible]

TOPIC TAGS: [illegible]

ABSTRACT: [illegible]



SOGRISHIN, Yu.P.; TIKHONOV, L.V.; CHERNIS, T.Sh.

Effect of the stress application method on the structure and mechanical properties of the D16M alloy. Metalloved. i term. obr. met. no. 2:48-50 F '65. (MIRA 18:12)

1. Eksperimental'nyy nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya.

CHERNISHENKO, E.A.

6001

Černišenko, E. A. The method of averaging applied to the determination of eigenvalues of an operator equation. Dopovidi Akad. Nauk Ukrain. RSR 1955, 217–221. (Ukrainian. Russian summary)

Let L be a completely continuous, self-adjoint, positive definite, linear operator on the space $C[0, 1]$ of continuous functions $[0, 1]$ with inner product $(\varphi, \psi) = \int_0^1 \varphi(t)\psi(t)dt$. Let $\mu_1 \geqq \mu_2 \geqq \cdots$ be the eigenvalues of the problem $L\varphi = \mu\varphi$. The method of the preceding review is applied to approximate μ_1. In the present paper $S\varphi = (\varphi, e)$, where $e(t) \equiv 1$. Let $\nu_1 = SLe$. Let $L_\tau^i e$ be the value of $L^i e$ for argument τ. Define $\nu_2 = \nu_2(\tau)$ as the larger zero of the determinant

$$\begin{vmatrix} SL^2e - \nu_2 SLe & \nu_1 SLe - \nu_2\nu_1 \\ L_\tau^2 e - \nu_2 L_\tau e & \nu_1 L_\tau e \end{vmatrix}$$

A related definition is given for $\nu_n(\tau)$ $(n \geqq 3)$.

The following theorems are stated. If $SL^i e = L_\sigma^i e$ $(i = 1, 2, \cdots)$, then $\nu_n(\tau) \to \mu_1$ as $\tau \to \sigma$ and $n \to \infty$. If

$$\frac{SL^2e}{SLe} - \frac{L_\tau^2 e}{L_\tau e} \geqq 0,$$

then $0<\nu_1 \leq \nu_2 \leq$

$\nu_1^* \geq \mu_2$, $\nu_1^* = SL$

example with

[Misprint: In (5*) instead

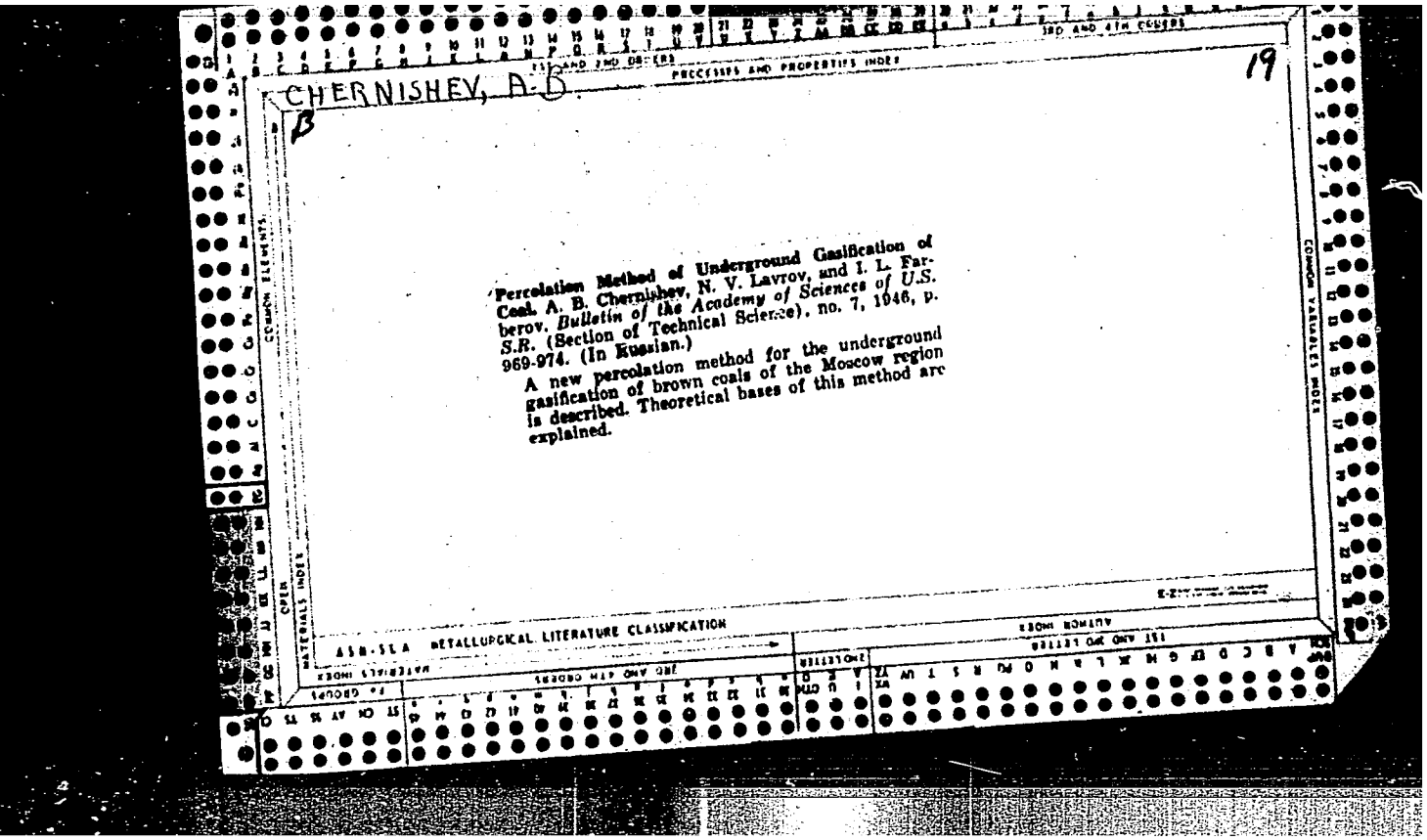
CHERNISHENKO, Ye.A.

On a variant of the method of the mean. Dop.AN URSR no.1:10-12 '56. (MIRA 9:7)

1.Institut matematiki AN URSR.Predstaviv diysniy chlen AN URSR G.M.Savin.
(Integral equations) (Calculus)

CHERNISHEV, A. A.

Chernishev, A. A. (USSR). (Electrical Method of Prospecting). Russian Patent 40469, issued December 31, 1934.
This invention relates to a method of electrical prospecting in which the rapidity of the increase and decrease of the direct current is determined by an oscillograph, connected between two points on the surface of the ground, at the moments of the connection and disconnection of a constant electromotive force; the electromotive force induced by the current in the adjacent closed electrical circuits is determined also.
Claim allowed - 1.



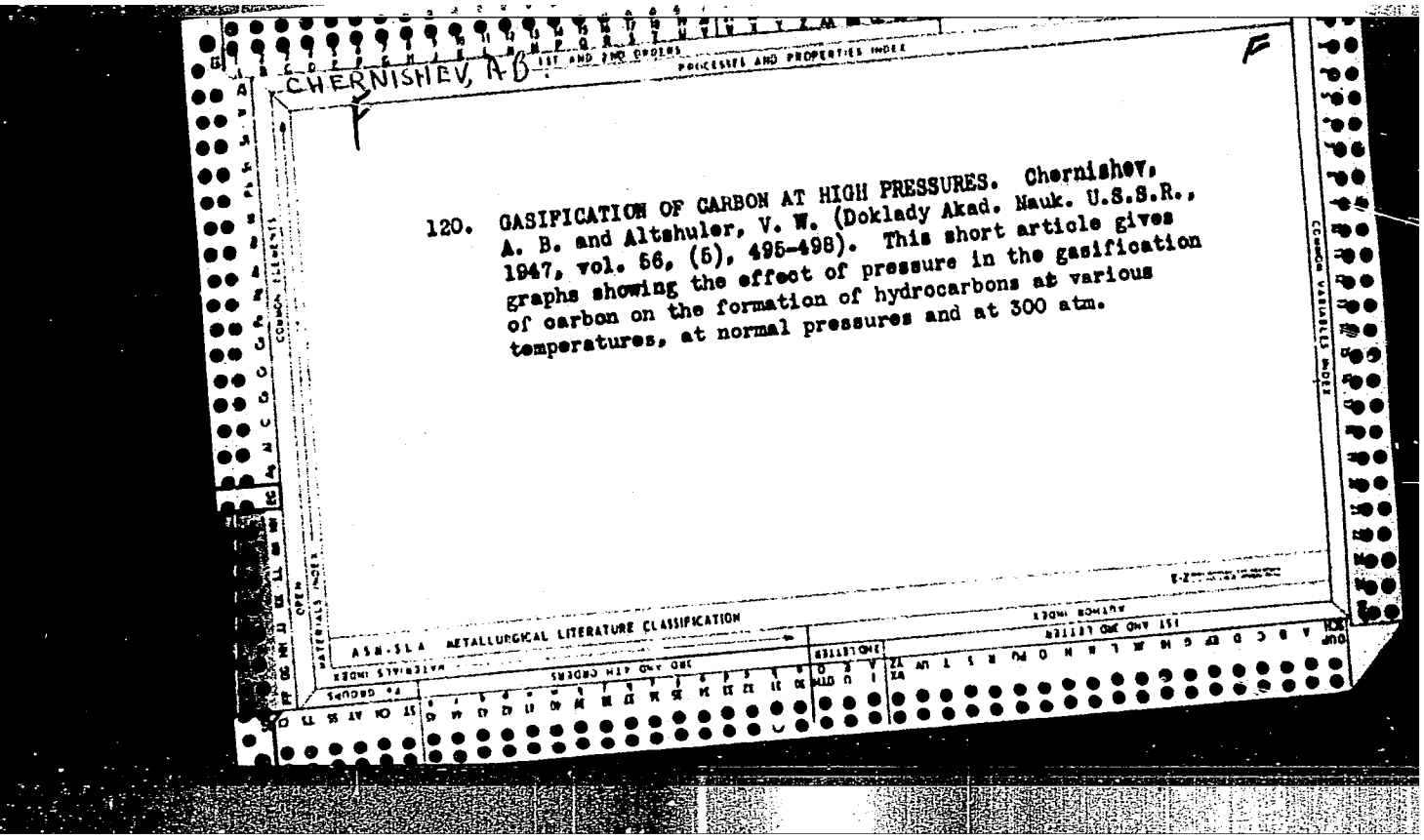
CHERNISHEV, A.B.

B

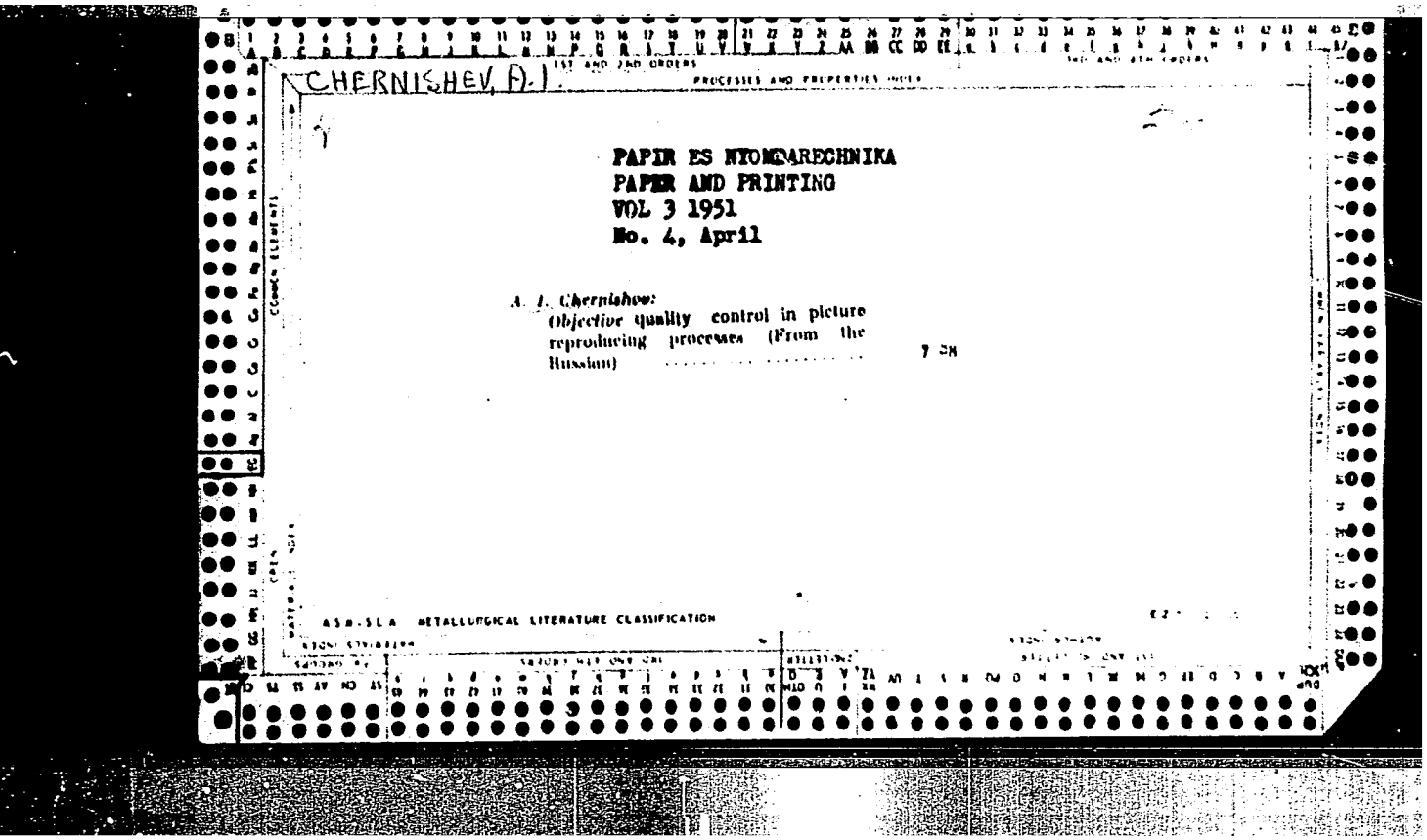
19

Percolation Method of Underground Gasification of Coal. A. B. Chernishev, N. V. Lavrov, and I. L. Farberov. *Bulletin of the Academy of Sciences of U.S.S.R.* (Section of Technical Science), no. 7, 1946, p. 969-974. (In Russian.)

A new percolation method for the underground gasification of brown coals of the Moscow region is described. Theoretical bases of this method are explained.


CHERNISHEV, A.B.

120. GASIFICATION OF CARBON AT HIGH PRESSURES. Chernishev, A. B. and Altshuler, V. M. (Doklady Akad. Nauk. U.S.S.R., 1947, vol. 56, (5), 495-498). This short article gives graphs showing the effect of pressure in the gasification of carbon on the formation of hydrocarbons at various temperatures, at normal pressures and at 300 atm.



CHERNISHEV, A.I.

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No. 4, April

A. I. Chernishov:
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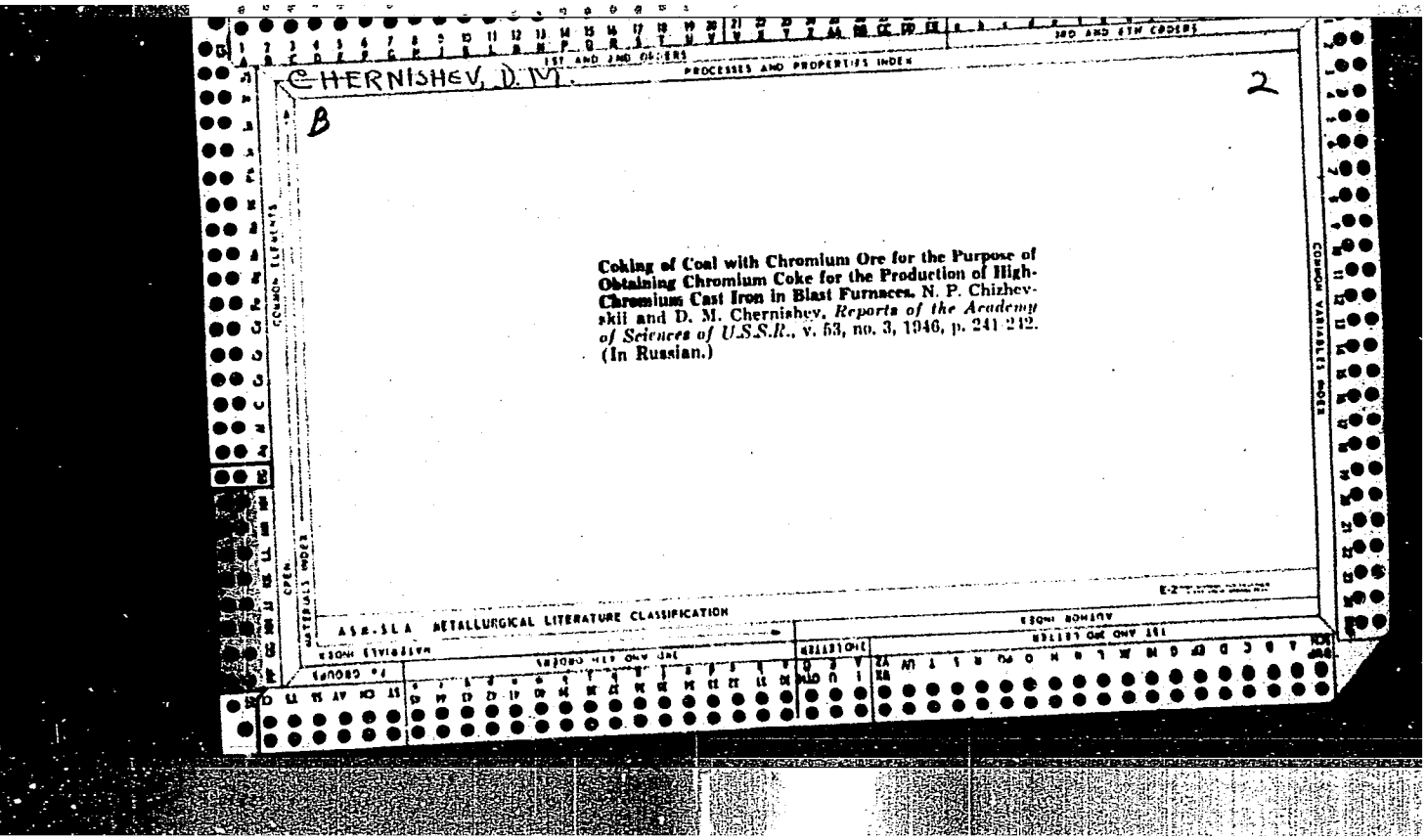

CHERNISHEV, D. M.

B

2

Coking of Coal with Chromium Ore for the Purpose of Obtaining Chromium Coke for the Production of High-Chromium Cast Iron in Blast Furnaces. N. P. Chizhevskii and D. M. Chernishev. *Reports of the Academy of Sciences of U.S.S.R.*, v. 63, no. 3, 1946, p. 241-242. (In Russian.)