

Extension of the Goluzin-Schiffer ... S/020/62/142/003/001/027  
C111/C333

$$\tilde{f} = f + h \frac{f'}{f_1} \frac{f_1(f_1^0 - f_1)}{(f_1 - t_1^*)(f_1^0 - t_1^*)} + O(\lambda^2) \quad (3)$$

is used, where  $t_1^*$  is an exterior point relative to the domain  $f_1 D(f_1 L_1)$ , and from  $\phi[\tilde{f}] \leq \phi[f]$  the author obtains in the usual manner a differential equation for the component  $f_1$  of the extremum function. With the aid of (3) it is shown that the domain  $f_1 D(f_1 L_1)$  represents the entire plane  $f_1$  with sections along analytic arcs. By repeating this method it is finally proved that the sought extremum function  $f$  maps the domain  $D$  onto the entire  $w$ -plane with  $n$  sections along piecewise analytic arcs.

As an example the author considers the maximum of  $|f'(z_0)|$  in the class  $F$  for  $n = 2$ .

There are 2 Soviet-bloc and 2 non-Soviet-bloc references. The reference

Card 3/4

Extension of the Goluzin-Schiffer ...

S/020/62/142/003/001/027  
C111/C333

to English-language publication reads as follows : M. Schiffer, Proc.  
Internat. Congr. Math., 1958, Cambridge, 1960. X

ASSOCIATION: Gor'kovskiy inzhenerno-stroitel'nyy institut imeni V.P.  
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V.P. Chkalov)

PRESENTED: August 31, 1961, by V.I. Sairnov, Academician

SUBMITTED: August 1, 1961

Card 4/4

YEGORSHIN, P.I., dots.; GIL'FERT, S.A., prof., doktor fiz.-mat.  
nauk, otv. red.

[Some applications of the derivative; a textbook] Nekotorye  
prilozheniia proizvodnoi; uchebnoe posobie. Gor'kii, Gor'-  
kovskii inzhenerno-stroit. in-t, 1962. 67 p. (MIRA 17:7)

GEL'FER, S.A. (Gor'kiy)

Typically real functions. Mat. zbor. 64 no.2:171-184 Je '64.  
(MIRA 17:9)

GEL'FER, S.S.; KHEZINYAKOVA, L.V. (Gor'kiy)

Variational method in the theory of analytic functions with a  
bounded mean modulus. Mat. sbor. 67 no.4:570-585 Ag '65.  
(MIRA 18:8)

ZHURAKHOVSKIY, P.N.; GEL'FER, S.M.; GAYETSKIY, A.G.

Mechanization of labor consuming operations in tire repair shops.  
Kauch.i rez. 21 no.3:45-47 Mr '62. (MIRA 15:4)

1. Kiyevskiy shinoremontnyy zavod.  
(Tires, Rubber—Repairing)

GEL'FER, TS.M., inzh.; KRUGLAYA, Z.P., inzh.; SOKOV, A.M., kand.  
tekh. nauk

Foam rubber materials for seat upholstery, mattresses and  
pillows of passenger cars. Trudy ISNII NPS no. 242879-90 '62.  
(MIRA 16:6)

(Foam rubber)  
(Railroads---Passenger cars)

GEL'FER, TS.M., inzh.; SOKOV, A.M., kand. tekhn. nauk

~~SECRET~~  
Use of "Relin" rubber linoleum as floor covering for passenger cars. Trudy TSNII NPS no.242:91-96 '62. (MIRA 16:6)

(Linoleum)  
(Railroads--Passenger cars)



GEL'FER, TS.M., inzh.; KRUGLAYA, Z.V., inzh.; SOKOV, A.M., kand.  
tekh. nauk

Polymer roofing materials for freight cars. Trudy TSNII NPS  
no.242:97-101 '62. (MIRA 16:6)

(Roofing) (Plastics)  
(Railroads--Freight cars)

PROCESSING AND PREPARATION INDEX

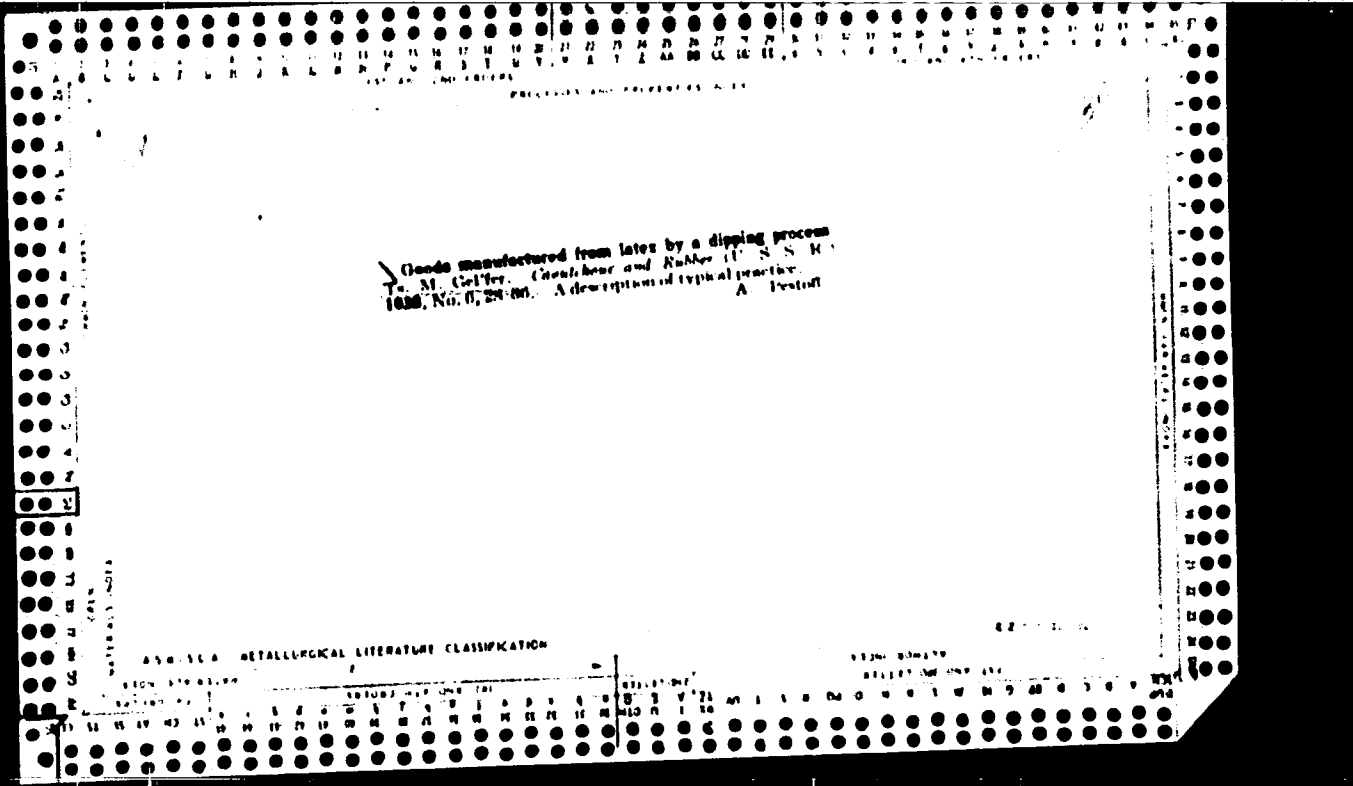
1ST AND 2ND ORDERS

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 (Handwritten notes)

Dispersion of rubber in water. II. Dispersions obtained by the method of solvent replacement. Tr. Gel'fer and H. Dogudkin, *J. Rubber Ind. (U. S. S. R.)* 1936, 347-51; cf. C. I. 29, 7603<sup>9</sup>. A mixt. of pale crepe 400, oleic acid and added 3, was milled for 30 min. at 50-55°, and a 20% Cst. soln. was prepd. in a Werner-Pfleiderer mixer, with addn. of 2.5% aq. NaOH and 0.5% aq. NH<sub>4</sub>OH. At first the viscosity increased and then diminished. The solvent was distd. at 70-80°. The milk-like dispersion after the removal of the solvent contained 10-12% of solids. After centrifuging for 1 hr. 20 min. the concentrate contained 25% solids (the mother liquor 3.8% solids). The size of the dispersed particles was 0.9-11.4  $\mu$ , the av.  $Z_{d0}/Z_0 = 3.61, 4.75$  and  $4.18 \mu$ . The properties of the dispersion depended on the plasticity of the pale crepe: the higher the plasticity, the more stable the dispersion, the smaller the av. size of the particles and the lower the viscosity. A 20-25% dispersion was prepd. and rubber films were made of 0.06 mm. thickness. The films were vulcanized by a 1% soln. of S<sub>2</sub>Cl<sub>2</sub> in CS<sub>2</sub>. Their tensile strength was 220 kg. per sq. cm. The stability of the dispersion was detd. by the method of "threshold of coagulation," i. e., the concn. of electrolyte to flocculate the dispersed phase. For a 20% dispersion, the "threshold of coagulation" was for NaCl, 0.2406 M; AcOH 0.0000-0.251 M; BaCl<sub>2</sub> 0.000073 M; and FeCl<sub>3</sub> 0.000188 M. A. Pestoff

METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

13

Carbazole and its derivatives. IV. Selective action of acylating substances on *N*-(hydroxymethyl)carbazole. K. G. Minich and Ts. M. Geller (Voroshilov Sci. Investigation Inst. for Org. Intermediates and Dyes, Moscow). *J. Applied Chem. (U.S.S.R.)* 19, 609 (1946) in Russian, cf. *C.A.* 35, 2600. *D*-(Hydroxymethyl)carbazole (I), dry  $C_{11}H_{13}N$ , and  $Ac_2O$  heated 20 min. at  $100^\circ$  give 90.8% crude or 65.70% purified *D*-(acetoxy)methylcarbazole, m.  $81-2^\circ$ , which, like its analogs, decomp. when heated and hydrolyzes very easily. The analogous reaction with  $H_2O$  gives 90.2% *D*-(hydroxymethyl)carbazole, m.  $100-4^\circ$ . When the reactions are carried out with  $AcCl$  or  $HCl$  instead of the anhydrides, a small amt. of solid mixt. of *D*,*D*-dicarbazolylmethane, m.  $312-13^\circ$ , and the acyl deriv. of I are formed. When the filtrate from this mixt. is allowed to stand, 68% I slowly seps. Warming increases the rate of sepn. The chief reaction product in this case is an unstable quaternary ammonium compd. which decomp., regenerating I. *D*-Nitrocarbazole heated with  $K_2CO_3$ ,  $HClO_4$ , and  $CH_3O$  gives 88% *D*-(acetoxy)methyl *D*-nitrocarbazole, m.  $181-3^\circ$ . With either  $Ac_2O$  or  $AcCl$  this gives 83.5% *D*-(acetoxy)methyl-*D*-nitrocarbazole, m.  $157-7.8^\circ$ , and with  $H_2O$  or  $HCl$  it gives 97.0% of the *senary deriv.*, m.  $163-4^\circ$ . An analogous reaction gives *D*-(hydroxymethyl)-*D*-benzoylcarbazole, m.  $154-5.5^\circ$ , which with  $Ac_2O$  gives 91% and with  $AcCl$  47% of the *acetoxy deriv.*, m.  $158-9^\circ$ . Thus the course of the reaction depends both on the acylating and the acetylated compd.

H. M. Leicester

ASB-514 METALLURGICAL LITERATURE CLASSIFICATION

1946 SYMBLON

1946 SYMBLON	1946 SYMBLON	1946 SYMBLON	1946 SYMBLON
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Carbazole and its derivatives. III. Action of dialkyl sulfates on sodium 3-carbazolesulfonate. K. G. Miruch and G. M. Geller (Vostokhiv Chem. Tech. Inst. Dye Intermediates, Moscow). *J. Gen. Chem.* (U.S.S.R.) 17, 921 (1947); cf. C. A. 42, 5056. Pure neutral  $R_2SO_4$  do not alkylate or sulfonate Na 3-carbazolesulfonate (I) (8.07 g.), 22.7 g.  $Me_2SO_4$ , and 20 cc.  $MePh$  gently refluxed 3.5 hrs. yielded 100% unchanged I; similar results were obtained with  $Et_2SO_4$ . When 8.07 g. I, 22.7 g.  $Me_2SO_4$ , 20 cc.  $MePh$ , and 0.51 g.  $H_2O$  were treated as above, the reaction mass was deep violet; after evapn. of the  $PhMe$  and  $Me_2SO_4$ , the residue, albl. with  $H_2O$  and neutralized with  $Na_2CO_3$ , gave 0.65 g. of a mixt., m. 214-19°, of mixed *di-Me esters* of carbazolesulfonic acids; no I was found. The crude *di-Me esters* were hydrolyzed by alc.  $NaOH$ , freed of  $EtOH$ , and the products were heated in sealed tubes with 7%  $HCl$  8 hrs. to 105-70°; crystn. of the resulting mixt. from  $PhMe$  gave carbazole and 0-

methylocarbazole in the ratio of 2:1. It was impossible to completely identify the components of the  $Me_2$  (or  $Et_2$ ) ester mixt. since crystn. led to hydrolysis and loss of all but *esters* of 3,6-carbazolesulfonic acid, which are colorless solids, insol. in  $H_2O$ , do not react with 4- $NSCl_2$ ,  $H_2OH$  in  $H_2SO_4$ , and decoup on heating; *di-Me ester*, long needles (from dry  $MeOH$ ), decoup 215-0°, *di-Et ester*, needles (from dry  $MeOH$ ), decoup 222-3° (rapid heat), decoup 21°-12° (slow heating), or 222-3° (rapid heating). Addn. of increasingly greater amts. of  $H_2O$  or  $Me_2SO_4$  favors the formation of such ester mixts. Similarly the use of conc.  $H_2SO_4$ , conig. acid, leads to such ester mixts. Similar promotion of the reaction was obtained with  $Et_2SO_4$ , which was heated 3 hrs. to 170° before the reaction; the more stable  $Me_2SO_4$  did not show such an effect. The mechanism of the *N*-alkylation is not clear, but the sulfonating action is caused by the monosubstituted sulfates produced by the action of either  $H_2O$  or  $H_2SO_4$  on  $R_2SO_4$ . G. M. Kosolapov

A.S.U. I.L.A. REFERENCE LITERATURE CLASSIFICATION

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20

Reaction of phenylmagnesium bromide with halomethyl and  $\alpha$ -bromobenzyl benzoates. K. G. Mironch and T. M. Geller (Voroshilov State Sci. Research Inst.), *Doklady Akad. Nauk S.S.S.R.* 70, 937 (1960). Abstr. of 1.25 g.  $\text{CICH}_2\text{OHz}$  to cold  $\text{PhMgBr}$  (from 2.9 g. Mg and 18.8 g.  $\text{PhBr}$ ) in  $\text{Et}_2\text{O}$  below  $5^\circ$ , followed by standing in an ice bath 1 hr. and refluxing 30 min. gave, after the usual treatment with  $\text{NH}_4\text{Cl}$  soln., 1.5 g.  $\text{Ph}$ , 2.5 g. (92%)  $\text{PhCH}_2\text{OH}$ , b.p.  $97-101^\circ$ , and 5.95 g. (91.5%)  $\text{PhCOH}$ ; no  $\text{BrOH}$  was isolated. Similarly,  $\text{BrCH}_2\text{OHz}$  gave 80%  $\text{PhCH}_2\text{OH}$  and 87.5%  $\text{PhCOH}$ , without any  $\text{BrOH}$ .  $\text{PhMgBr}$  (from 30.2 g.  $\text{PhBr}$  and 4.7 g. Mg) in  $\text{Et}_2\text{O}$  with 11.64 g.  $\text{PhCHBrOHz}$  gave 60%  $\text{PhCOH}$ , 1.6 g.  $\text{Ph}$ , 3.2 g.  $\text{PhCH}_2\text{OH}$  (43.5%), 1.0 g. (10.4%)  $\text{PhCH}$ , 1.47 g. (41%) tetraphenolethane, m.  $200.6-10.6^\circ$  (from  $\text{AcOH}$ ), and 0.61 g. (12.6%)  $\text{BrOH}$ . Similar reaction of  $\text{PhMgBr}$  from 1.50 g. Mg and 12.3 g.  $\text{PhBr}$  with 5.76 g.  $\text{PhCH(OHz)Br}$  gave 3.25 g. (88.2%)  $\text{PhCH}_2\text{OH}$  and 4.71 g.  $\text{PhCOH}$  (90.9%), as well as 0.9 g.  $\text{Ph}$ . The results are explained, at least in part, by the reaction of  $\text{RMgX}$  with the 1st C atom of the  $\text{ROHz}$  involved in the ester structure, caused principally by the presence of sufficiently electrophilic groups in the vicinity of the ester link. G. M. K.

CA

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Reactions of some esters of carboxylic acids. K. G. Minich and T. M. Gal'ev. *Doklady Akad. Nauk S.S.S.R.* 79, 107-10 (1961).—Investigation of the reactions of Grignard reagents with esters (cf. Petrov and Bataev, *C.A.* 44, 11334) indicates that: (1) the mechanism proposed by Irving (*C.A.* 30, 5430) applies only to special cases of  $\beta$ -nitroacetates, and (2) esters of carboxylic acids in which a cleavage between the O and C atom of the alkoxy group is known react with  $\text{RMgX}$  and other nucleophilic reagents in the same fashion, with the detg. factor being the transfer of an electrophilic center from the carbonyl C to the C atom of the OR group. Refluxing 1.82 g.  $\text{PhCOEt}$  (or 1.51 g. acetate) 6 hrs. in  $\text{C}_6\text{H}_6$  with 1.00 g.  $\text{PhNH}_2$  gave 86%  $\text{PhC-NHPh}$ , and corresponding amts. of  $\text{EtOH}$  or  $\text{AcOH}$ .  $\text{PhCOH}$  does not react with  $\text{PhNH}_2$  under such conditions.  $\text{MeMgI}$  (5 moles) and 1 mole  $\text{PhCOAc}$  gave 86%  $\text{PhCMe}$ , while  $\text{PhCOEt}$  and 2 moles  $\text{MeMgI}$  gave 43%  $\text{PhCMe}$  and

51%  $\text{EtOH}$ ; a trace of  $(\text{PhC})_2\text{O}$  was also found. With 5 moles  $\text{MeMgI}$  the yield of the hydrocarbon rose to 70.5%.  $\text{PhMgBr}$  (2 moles) with 1 mole  $\text{PhCOEt}$  gave 86%  $\text{EtOH}$  but only 13%  $\text{PhC}$ , along with 3%  $\text{PhCH}$  and 16%  $(\text{PhC})_2\text{O}$ , and 28%  $\text{PhCOH}$ ; 5 moles  $\text{PhMgBr}$  gave 61%  $\text{EtOH}$ , 9%  $\text{PhC}$ , 2.5%  $\text{PhCH}$ , 31%  $\text{PhCOH}$ , and 13%  $(\text{PhC})_2\text{O}$ .  $\beta$ -Carbamoylmethyl acetate did not react with  $(\text{PhC})_2\text{O}$ .  $\beta$ -Carbamoylmethyl acetate did not react with a small excess of  $\text{PhNH}_2$  at 35–45° in  $\text{Et}_2\text{O}$  or  $\text{C}_6\text{H}_6$ , but in a prolonged run there were isolated the expected *N*-( $\beta$ -carbamoylmethyl)aniline, m. 161–3° and *N,N*-bis( $\beta$ -carbamoylmethyl)aniline, m. 222–3°; some carbazole was also formed. G. M. Kosolapoff

GEL'FER, TS. M.

GEL'FER, TS. M.- "Alkyl-Oxygen Splitting of Ethers of Carbonic Acids." Min of Education  
RSFSR, Moscow Municipal Pedagogical Inst imeni V. M. Potemkin, Moscow, 1955  
(Dissertations for Degree of Candidate of Chemical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow



GB/fer, Ts. N.

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(III) in 10 ml. pyridine (all used by 2.5 hr. at 75°) and quenching in ice gave 1.1 g. *N*-2-tenzoyloxyethylcarbazole, m. 116.2-16.6° (from MeOH-Me<sub>2</sub>CO). PhSO<sub>2</sub>Cl (4.9 g.) with 4.77 g. III in 50 ml. pyridine 1 day at 60-65° temp. gave 5.2 g. PhSO<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>N(CO)C<sub>6</sub>H<sub>4</sub>-, m. 138-8.5° (from MeOH). To PhMgBr from 19.8 g. PhBr was added 6.40 g. *N*-2-tenzoyloxyethylcarbazole and after refluxing 3 hrs. the mixt. treated with aq. NH<sub>4</sub>Cl yielding 71.3% *N*-2-hydroxyethylcarbazole, m. 79.6-80.5°, and 62.2% Ph<sub>2</sub>CO. Addn. of 21.2 g. PhSO<sub>2</sub>Cl with cooling to 70 ml. pyridine, stirring 0.5 hr., cooling to 5°, adding 22.93 g. *p*-AcNHCl.H<sub>2</sub>SO<sub>4</sub>.CH<sub>3</sub>OH, heating 2 hrs. at 75°, and stirring 6 hrs. gave on the following day 20.85 g. *p*-AcNHCl.H<sub>2</sub>SO<sub>4</sub>.CH<sub>3</sub>OH.SPh, m. 195.2-5.5° (from EtOH), on diln. of the filtrate with H<sub>2</sub>O; the pyridine-insol. ppt. (4.15 g.) was 1,1'-methylenebis(pyridinium chloride), a solid (from aq. EtOH), isolated as a monohydrate; picrate, decomp. 215°, also formed from PhSO<sub>2</sub>Cl in pyridine with paraformaldehyde in 5 hrs. at 75°. Heating 3.48 g. C<sub>6</sub>H<sub>5</sub>Br in 10 ml. pyridine 5 hrs. at 100° gave 78.3% 1,1'-methylenebis(pyridinium bromide), m. 255-9°; picrate, m. 245-6.5° (cf. Klag, C.A. 42, 2973c). G. M. Kosolapoff

Handwritten scribbles and initials.

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AUTHORS: Chlenova, R. S., Gel'fer, T.M.,  
Petrov, S. F.

SOV/79-28-11-17/55

TITLE: On Some Derivatives of the "Phenoxazone" Series (O  
nekotorykh proizvodnykh ryada fenoksazona)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11,  
pp 2977 - 2981 (USSR)

ABSTRACT: Chloro aniline reacts with the substituted o-amino-  
phenolene to the derivatives of "phenoxazone" (I).  
This reaction (1) takes place easily in those cases  
where there are electrophilic substituents in the  
molecule of aminophenol in the position 4 or 5, e.g. a  
nitro group or halogen (Scheme 1). The syntheses  
of the nitro, amino, and acylamino "phenoxazones"  
have been little dealt with in publications. The syntheses  
of some "phenoxazone" derivatives as carried out by  
the authors are described in this paper. The technical  
compound (II) obtained according to a German patent  
(620346) was synthesized by the authors in a slightly  
different way by the condensation of 5-nitro-2-amino-  
phenol with chloro aniline in aqueous suspension using

Card 1/3

On Some Derivatives of the "Phenoxazone" Series

SCV/79-28-11-17/55

surface activating substances. This modification of the above mentioned patent can be useful for the technical production of the product (II). This "oxazone" has a mobile chlorine atom in the position 3 so that on the action of two molecules 5-nitro-2-aminophenol on 1 molecule chloro aniline in alcohol solution the oxazine (III) is easily formed (83%). The synthesis of the compound (IV) by the reduction meets with considerable difficulties and takes place by way of intermediate steps, with the compounds formed being capable of separation, among them the oxazines (V) and (VI), corresponding to the conditions of the reduction. The data obtained show that the formation of the compound (IV) from the nitro compound takes place under the action of sodium hydrosulfite on the introduction of air according to the scheme (2). The absorption spectra of the obtained compounds were taken. Their curves may be seen on figure 2. There are 2 figures.

Card 2/3

On Some Derivatives of the "Phenoxazone" Series

SOV/79-28-11-17/55

ASSOCIATION: Nauchno-issledovatel'skiy institut organicheskikh polu-  
produktov i krasiteley imeni K.Ye.Voroshilova (Scientific  
Research Institute of Organic Semiproducts and Dyes  
imeni K.Ye. Voroshilov)

SUBMITTED: September 20, 1957

Card 3/3

5.1.1960

11  
307/54540-40/12

AUTHORS: Chlenova, R. S., Gelfer, Ta. M., Masova, L. B.

TITLE: Brief Communications. Concerning the Characteristics of Sulfur Dyes

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 2, pp 475-478 (USSR)

ABSTRACT: The characteristic curves of absorption for each sulfur dye were obtained. (See Figs. 1, 2, 3, and 4, where A is optical density and B is wavelength (in m  $\mu$ )). Dimethylformamide was used as solvent. There are 6 figures.

ASSOCIATION: Voroshilov Scientific-Research Institute of Organic Intermediates and Dyestuffs (Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley imeni K. E. Voroshilova)

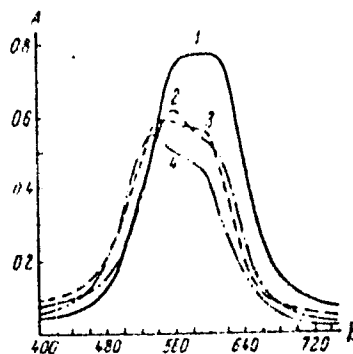
SUBMITTED: May 11, 1959

Card 1/5

Brief Communications. Concerning the Characteristics of Sulfur Dyes

77665  
SOV/80-33-2-40/52

Fig. 1. Absorption curves: (1) sulfur blue 3; (2) sulfur blue K; (3) sulfur blue 5K; (4) sulfur blue obtained from aminotrichlorophenoxazone.



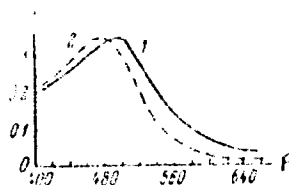
Card 2/5



Brief Communications. Concerning the  
Characteristics of Sulfur Dyes

TTT  
SOV/80-33-2-40/92

Fig. 2. Absorption curves:  
(1) sulfur violet 4K; (2)  
sulfur bordeaux

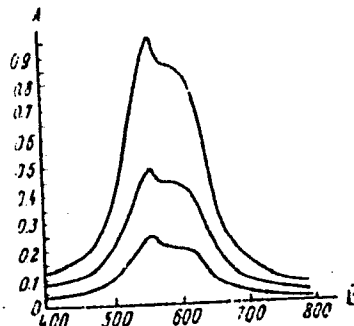


Card 3/5

Brief Communications. Concerning the Characteristics of Sulfur Dyes

77655  
SOV/80-33-2-40/52

Fig. 3. The absorption curves for sulfur blue K for several dilutions: Amount of dye (in g/l): upper curve = 0.04; middle = 0.02; lower = 0.01.

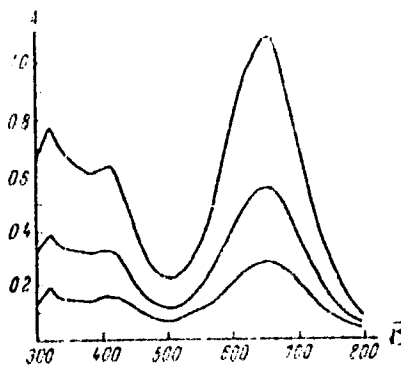


Card 4/5

Brief Communications. Concerning the Characteristics of Sulfur Dyes

TT000  
SGV/80-33-2-40/52

Fig. 4. The absorption curves for sulfur brilliant G for several dilutions: Amount of dye (in g/l): upper = 0.1; middle = 0.05; lower = 0.025.



Card 5/5

U 59925-65 ENT(m)/EPF(o)/EWA(d)/T Pr-4 WE/RM  
ACCESSION NR: AP5016742

UR/0286/65/000/010/0054/0054

AUTHORS: Levchenko, D. N.; Nikolayeva, N. M.; Mizuch, K. G.; Gel'fer, Ts. M.

TITLE: A method for dehydrating and desalinating of petroleum. Class 21, No.171065

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 10, 1965, 54

TOPIC TAGS: petroleum, dehydration, desalination, surface active substance, ester

ABSTRACT: This Author Certificate presents a method for dehydrating and desalinating of petroleum by introducing nonionogenic surface active substances into the petroleum emulsion. To accelerate the process of dehydration and desalination, polypropyleneglycol esters of polyethyleneglycol, or its derivatives, with a molecular weight of 2500-10 000 are used as the nonionogenic surface active substances.

ASSOCIATION: none

SUBMITTED: 1)Feb64

ENCL: 00

SUB CODE: FP, GC

NO REF SOV: 000

OTHER: 000

Card 1/1

ACC NR: AP7009094

SOURCE CODE: UR/0413/67/000/003/0067/0067

INVENTOR: Gel'fer, V. A.; Mogilevskiy, M. A.; Polonskiy, I. Ye.; Vygodskiy-Sogolovich, E. N.; Malyutin, P. V.; Romyantsev, A. F.

ORG: None

TITLE: A turbine wheel. Class 27, No. 191036

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1967, 67.

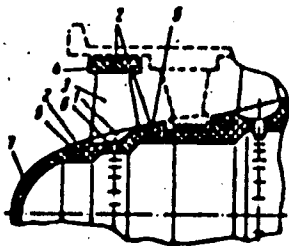
TOPIC TAGS: turbine rotor, fiberglass, turbine blade, plastic

ABSTRACT: This Author's Certificate introduces: 1. A turbine wheel which may be used in an axial-flow compressor with vanes and banding made from thermosetting fiberglass-reinforced plastics. Reliability is improved and manufacturing technology is simplified by making the blade of the vane in one piece with upper and lower shelves and equipping these shelves with grooves for winding on continuous glass fibers saturated with resin. The butt section of the vane carries fastening pins for connection to the hub of the wheel. 2. A modification of this wheel with optimum blade spacing. The vanes are made with a constant meridian cross sectional area.

Card 1/2

UDC: 677.521:621.515.53-253

ACC NR: AP7009094



1--vane; 2--fiberglass banding; 3--blade; 4 and 5--upper and lower shelves; 6--fastening pins (sleeves); 7--hub of the wheel

SUB CODE: ~~13~~<sup>10</sup> SUBM DATE: 22Sep65

Card 2/2

GEL'FER, Ya. M., Engineer

"Investigation of Temperature Fields in Ingot and Casting Mold by the Method of Hot Water Analogy." Sub 28 Jun 51, Moscow Inst of Steel imeni I. V. Stalin

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

GEL'FER, Ya.M.; IVANTSOV, G.P.

Investigating temperature fields in ingots and molds by means of  
hydraulic integrators. Sbor. trud. TSIICM no. 2, 196-224 '53. (MLRA 10:6)  
(Integrators) (Heat--Transmission) (Steel ingots)



GIL'FER, Yakov Matveyevich; DUKOV, V.M., red.; DROZDEZHIN, Yu.N., red.;  
TSYPTO, P.V., tekhn. red.; SMIRNOVA, M.I., tekhn. red.

[Law of the conservation and transformation of energy; manual for  
teachers] Zakon sokhraneniia i prevrashcheniia energii v ego isto-  
richeskom razviti; posobie dlia uchitelia. Moskva, Gos. uchebno-  
pedagog. izd-vo M-va prosv. RSFSR, 1958, 257 p. (MIRA 11:9)  
(Force and energy)

SMIRNOV, G.N., kand.tekhn.nauk; GEL'FER, Ya.M., kand.tekhn.nauk

Wave pressure on vertical shore protection structures. Nauch.  
dokl.vys.shkoly; stroi. no 2:227-234 ' 58.      (MIRA 12:1)  
(Shore protection) (Waves)

GEL'FER, Yankov Matveyevich; DROZHEZHIN, Yu.N., red.; KARPOVA, T.V.,  
tekh.red.

[What is heat? A manual for students] Chto takoe teplota;  
posobie dlia uchashchikhsia. Moskva, Gos.uchebno-pedagog.  
izd-vo M-va prosv.RSFSR, 1960. 154 p.

(MIRA 14:3)

(Heat--Handbooks, manuals, etc.)

GEL'FER, Ya.M., dots. (Moskva)

Laws of conservation. Fiz. v shkole 20 no.6:12-21 N-D '60.  
(MIRA 14:2)  
(Force and energy)

S/137/62/000/004/077/201  
A052/A101

AUTHORS: Gel'fer, Ya. M., Izmanova, T. A.

TITLE: Determination of diffusion coefficients of hydrogen in steel at various alloying additions at indoor temperature

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1961, 4, abstract 4I31 ("Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii," no. 19, 110 - 116)

TEXT: The diffusion coefficients  $D$  of hydrogen in the investigated steels were calculated by experimental data (RZhM, no. 11, 1957, 21133). The boundary-value problem of the theory of diffusion has been solved, where  $D$  is found for  $H$  diffusion from a sample having the form of a cylinder of  $2l$  height and  $R$  radius at a given initial concentration and with a mass exchange on butts and side surface satisfying the boundary conditions of 3rd kind. The solution of the problem  $\partial C/\partial t = D [\partial^2 C/\partial r^2 + (1/r)(\partial C/\partial r) + \partial^2 C/\partial z^2]$  is sought for in the form  $C(r, z, t)/C_0 = [C'(r, t)/C_0][C''(z, t)/C_0]$ , where  $C'(r, t)$  and  $C''(z, t)$  are the concentrations in the same point of an unlimited cylinder and unlimited plate by the intersection of which a cylinder of finite dimensions is formed. In the obtained

Card 1/2

Determination of diffusion coefficients...

S/137/62/000/004/077/201  
A052/A101

expression for D enters the factor  $\alpha_1$  which is calculated by using the value  $D = 5.31 \cdot 10^{-2} \exp(-3050/RT)$  (Stross, T., Hopkins, F. "J. Chem. Soc.", 1956). The analytical formula  $D = [1/\alpha_1^2 (t_2 - t_1) \ln(Q_{t_1}/Q_{t_2})]$  is derived, where  $\alpha_1^2 = 0.366$ ,  $Q_{t_1} = Q_0 - Q_1$  and  $Q_{t_2} = Q_0 - Q_2$ ;  $Q_0 = 2\pi R^2 l C_0$  is the initial H content in the sample and  $Q_1$  and  $Q_2$  are the amounts of H having diffused through the sample in times  $t_1$  and  $t_2$  respectively. D for all systems are determined under conditions of H liberation from the samples during a continuous storage at indoor temperature. The obtained values of D agree with the data of other authors.

I. Levtonov

[Abstracter's note: Complete translation]

Card 2/2

GEL'FER, Ya.M. (Moskva)

Studying the concept of matter and the forms of its existence.  
Fiz. v shkole 22 no.3:35-41 My-Je '62. (MIRA 15:7)  
(Matter) (Physics--Study and teaching)

SHCHUKIN, Viktor Konstantinovich; GEL'FER, Ya.M., red.

[Heat transfer in nature and technology] Teploobmen v  
prirode i tekhnike. Moskva, Nauka, 1965. 120 p.

(MIRA 18:7)



OSTAPENYA, P.V.; SELEZNEV, A.F.; GEL'FER, Ye.A.  
~~XXXXXXXXXXXXXXXXXXXX~~

A case of tetraethyl lead poisoning from deep well water.  
Gig.1 san.no.2:48-49 F '54. (MLRA 7:2)  
(Lead poisoning) (Water--Pollution)

GEL'FER, Ye. A.

USSR/ Cosmochemistry. Geochemistry. Hydrochemistry

D.

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11551

Author : Ostapenya P.V., Kagan Ts.A., Gel'fer Ye.A.

Title : Some Data on the Content of Iodine, Fluorine and Copper in Natural Waters of Poles'ye Lowlands

Orig Pub : Zdravookhr. Belorussii, 1956, No 7, 40-43

Abstract : In waters of Quaternary levels within the territory of Poles'ye there is less I than in waters of the same levels beyond its borders; in more ancient levels content of I and Br increases. In mineralized waters of the brine type the amount of I reaches 8.0 mg/liter. In the area of Gomel waters of the chalk stratum have an I content of 24.15  $\mu$ g/liter, and 250  $\mu$ g/liter of Br. According to analysis data of 19 samples of water taken in August 1955 from the river Pripyat and its tributaries in mg/liter: F up to 0.13, Cu 1.0 - 8.0. Relatively low concentration of F makes possible mass occurrence of dental caries in man and animals.

Card 1/1

OSTAPENYA, P.V.; KAGAN, TS.A.; ~~GEL'FER, Ya.A.~~

Fluorine, bromine, iodine, and copper in natural waters of the  
Polesye Lowland. *Gidrokhim.mat.* 28:76-82 '59. (MIRA 12:9)

1. Belorusskiy nauchno-issledovatel'skiy sanitarnyy institut,  
G.Minsk.  
(Polesye--Water--Composition)

OSTAPENYA, P.V.; KAGAN, TS.A.; GEL'FER, Ye.A.

Iodine, bromine, fluorine, and copper content of natural waters  
in the Polesye Lowland (White Russia). Trudy Biogeokhim. lab.  
no.11:75-82 '60. (MIRA 14:5)

1. Belorusskiy nauchno-issledovatel'skiy sanitarnyy institut.  
(POLESYE—WATER—COMPOSITION) (HALOGENS)  
(COPPER)

KAGAN, TS.A.; GEL'FER, Ye.A.

Method for the investigation of organic matter in underground  
waters. *Gidrokhim. mat.* 30:181-189 '60. (MIRA 13:9)

1. Belorusskiy sanitarnyy institut, Minsk.  
(Water, Underground--Analysis) (Humus)

507/537A

PHASE I BOOK EXPLOITATION

Academiya nauk SSSR. Gidrokhimicheskiy institut  
Gidrokhimicheskiye materialy, t. XII (Hydrochemical substances, v. 30)  
Moscow, Izd-vo AN SSSR, 1960. 213 p. Krata slip inserted.  
2,000 copies printed.

Sponsoring Agency: Academiya nauk SSSR. Gidrokhimicheskiy institut  
(Novocherkassk).

Editorial Board (Title page): Re-p. Ed. O. A. Alekin, M. V. Veselovskiy, Deputy Resp. Ed. V. G. Matko, D. S. Konovnikov, M. I. Krivonozov, S. I. Kryukov, A. M. Savel'ev and K. O. Saryev. Ed. of Publishing House: D. M. Trifonov. Tech. Ed.: I. T. Borokhina.

PURPOSE: This publication is intended for hydrologists, hydrochemists, and hydrometeorologists.

COVERAGE: This is a collection of 22 articles on the hydrochemistry of rivers and water bodies in the USSR. The authors discuss pollution, spectrographic methods of determining the content of dissolved matter in water, and the content and discharge of ions, gases, as well as chemical, biogenic, and organic substances. A map showing the distribution of the ionic discharge of rivers in the USSR is the most complete to appear in print to date. No personalities are mentioned. Each article is accompanied by references.

507/537A

Hydrochemical Substances

Korin, A. M. and E. I. Khabichik [Institut Giprovtokhnost', Kuybyshevskiy Institut of the State Institute for the Design and Planning of Petroleum Industry Establishments in the Eastern Regions, Kuybyshev]. Gases in the Waters of Petroleum Deposits in the Kuybyshevskaya Oblast' 156

Dudova, M. Ya. [Vsesoyuzny nauchno-issledovatel'skiy inzhenerno-geologicheskii inzhenernoy geologii, Moskva - All Union Scientific Research Institute of Hydrology and Engineering Geology, Moscow]. Determining Organic Nitrogen in Waters Containing Large Amounts of Mineral Nitrogen by Means of the Kjeldahl Micromethod 164

Klimov, I. P., and V. Ya. Yermenko [Gidrokhimicheskiy Institut AN SSSR]. Toward a Spectrographic Determination of Microelements in Natural Waters. Report II. Extraction With Cupferron 170

Klimov, I. P., and V. Ya. Yermenko [Gidrokhimicheskiy Institut AN SSSR]. On the Spectrographic Determination of Microelements in Natural Waters. Report III. Extraction With 8-Hydroxyquinoline (Oxine) 175

Mitskevich, B. P., and Ye. S. Kuznetsov [Institut Geologicheskikh Nauk AN SSSR, Kiev]. Analysis of Certain Rare Elements in Natural Waters 177

Kagan, Ya. A., and Ye. A. Gel'fer [Beloruskiy Nauchnoy Institut, Minsk - Belorussian Scientific Engineering Institute, Minsk]. On the Methods of Investigating Organic Matter in Underground Waters 181

Sivko, I. M. [Belorussian Sanitary Engineering Institute, Minsk]. On Methods of Determining Dichromate Oxidizability of Pure and Polluted Waters 190

Dybkov, A. V., and L. P. Erylova [Vobnaya laboratoriya sanitarnitskii Chuvstvenno glavnoye upravleniya pri Ministerstve Zivkovaniya SSSR, Moskov - Water Test Laboratory of the Sanitary Engineering and Epidemiology Station of the Fourth Main Administration of the Ministry of Health USSR, Moscow]. Changes in the Content of Organic Matter in Samples of River Water After Prolonged Storage 196

Rules for Authors 212

AVAILABLE: Library of Congress

OSTAPENYA, P.V.; GEL'FER, Ye.A.; KAGAN, TS.A.

Fluorine content in the drinking water of the White Russian  
S.S.R. Zdrav. Bel. 9 no.7:51-53 J1'63 (MIRA 17:4)

1. Iz Belorusskogo nauchno-issledovatel'skogo sanitarno-gigi-  
yenicheskogo instituta.

KAGAN, TS.A.; GEL'FER, Ye.L.

Bromine and iodine in natural waters of the White Russian S.S.R.  
Gidrokhim.mat. 34:86-94 '61. (MIRA 15:2)

1. Belorusskiy nauchno-issledovatel'skiy sanitarno-gigiyenicheskiy  
institut, Minsk.  
(White Russia--Water--Composition) (Bromine) (Iodine)



GEL'FER, Ye.M., inzh.

First and foremost, woodpulp and its quality. Bum.prom. 36 no.3:  
19 Mr '61. (MIRA 14:4)

1. Nachal'nik kislотно-varochnogo tsekha Vyborskakogo kombinata.  
(Woodpulp)

GEL'FER, Ye.M.

Optimum base content of the cooking liquor. Bum. prom. 38  
no.5:25-26 My '63. (MIRA 16:8)

1. Vyborgskiy kombinat.  
(Woodpulp)

Reference:

USSR/Chemistry - Carbazole  
Chemistry - Dibenzopyrrole

Sep 1946

"Investigation in the Field of Carbazole and Its Derivatives: IV, Selective Action of Acylating Substances on N-oxymethylcarbazole," K. G. Mizuch, Z. M. Gelfer, 6 pp

"Zhur Prik Khim" Vol XIX, No 9

Description of method and properties of a series of new carbazole derivatives.

PA 13T32

GELFER, Z. M.

Mizuch, K. G., and Gelfer, Z. M.- "Investigation in the Field of Carbazole and its Derivatives. III. Action of Dialkylsulphates on Sodium Carbazole-3-Sulphate." (p. 828)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1947, Vol. 17, No. 4

82055

S/035/60/000/03/04/009  
A001/A001

3.1720

Translation from: Referativnyy zhurnal, *Astronomiya i Geodeziya*, 1960, No. 3,  
p. 41, # 2310

AUTHORS: Gel'freykh, G. B., Yen' Zhi-khua, Korol'kov, D. V., Ryzhkov, N. F.,  
Soboleva, N. S., U San'-tyu, Chen Kun'-yuen'

TITLE: Preliminary Results of Observations of the <sup>✓</sup>Solar Eclipse on April 19,  
1958, With Polarization Devices of Centimeter Range

PERIODICAL: *Solnechnyye dannyye*, 1958, No. 5, pp. 66-70

TEXT: Recorded curves of variations in the intensity of solar radio-  
frequency radiation on the wavelengths 5.1, 3.3 and 2.0 cm are presented. The  
records were made by means of polarization devices on the Hainan island (ChPR)  
during the observation of the solar eclipse on April 19, 1958, by the Soviet-  
Chinese expedition. The main results of the analysis of the curves are described.  
They warrant the conclusions on the existence of a local source of radio-  
frequency radiation, <sup>✓</sup>connected with a group of sunspots which was present on  
the Sun's disk on the eclipse day, and on the spectrum of this source. The  
values of brightness temperature  $T_b$  have been obtained, as well as the values

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82955

S/035/60/000/03/04/009  
A001/A001

Preliminary Results of Observations of the Solar Eclipse on April 19, 1958,  
With Polarization Devices of Centimeter Range

of circular polarization (in %) P of radiation from the region located over the large cores of the mentioned group:  $T_p = 3.6 \cdot 10^6$ ;  $1.65 \cdot 10^6$  and  $2 \cdot 10^5$  degrees K and P = 21 and 22% for the wavelengths 5.1, 3.3 and 2.0 cm, respectively. On the 2.0-cm wavelength no polarization was detected. The linear-polarization component of radiation of the sunspot group on the 3.3-cm wavelength was also not detected. Some data have been obtained on the radiobrightness distribution over the Sun's disk. In particular, the radiodiameter on the 2.0-cm wavelength turned out to be  $1.03 \pm 0.01$  of the photosphere radius (?), and the existence of a slight increase in the brightness of the disk edge on this wavelength seems to be possible.

A. Ye. Salomonovich

UH

Card 2/2

GEL'FGAT, A.I. (g. Orsha).

Demonstrating the motion of ions. Khim.v shkole 9 no.5:51-55  
S-0 '54. (MIRA 7:9)  
(Chemistry--Experiments) (Ions)

GRI'FOAT, A.I. (g.Orsha)

Demonstrating electric power transmission. Pis. v shkole 15 no.6:  
56-58 N-D '55. (MLRA 9:2)  
(Electric power--Study and teaching)



QEL'GAT, A.I. (g.Orsha Belorusskoy SSR)

Thermoscope experiments. Fiz.v shkele 16 no.3:49-51 My-Je '56.  
(Thermometry--Experiments) (MLRA 9:7)

AUTHOR: Gelfgat, A.I. (Orsha, Belorussian SSR) SOV-47-58-6-18/28

TITLE: The Use of Demonstration Ammeters and Voltmeters (K ispol'zovaniyu demonstratsionnykh ampermetrovo i vol'tmetrovo)

PERIODICAL: Fizika v shkole, 1958, Nr 6, pp 66 - 69 (USSR)

ABSTRACT: Practice has shown that the ammeters and voltmeters used for demonstration purposes in schools and issued by the Plant "Fizelektropribor" can be utilized for other purposes. The author describes in detail how these ammeters and voltmeters, without being thoroughly re-equipped, can be adapted for a wide range of electrical measurements in school experiments. At the same time he agrees with I.P. Zherebtsov who in 1955 pointed out in this periodical the necessity of a further improvement of these measuring devices. There are 3 diagrams and 1 drawing.

1. Ammeters--Applications 2. Voltmeters--Applications

Card 1/1

ALBENBYEV, D.A., insh., GHE'FGAF, A.M., insh.

The SVU-55 self-propelling vibratory drilling unit. Gidr.  
stroi. 30 no.6:46-47 Je '60. (MIRA 13:7)  
(Boring machinery) (Vibrators)

KRIVENKO, Mikhail Grigor'yevich; ALEKSEYEV, Dmitriy Aleksandrovich;  
GEL'FGAT, Aleksandr Mikhaylovich; VOZDVIZHENSKIY, B.I., otv.  
red.; KOSTON'YAN, A.Ya., red. izd-va; MAKSIMOVA, V.V., tekhn.  
red.

[Large-hole drilling] Prokhodka skvazhin bol'shogo diametra. Mo-  
skva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 81 p.  
(MIRA 14:11)

(Boring)

*GEL'FGAT, B.Ye*

AUTHOR: Radziyevskiy V.V. and Gel'fgat, B.Ye. 33-4-7/19

TITLE: The Restricted Problem of two Bodies of Variable Mass.  
(Ob ogranichennoy zadache dvukh tel peremennoy massy).

PERIODICAL: Astronomicheskiy Zhurnal, 1957, Vol.34, No.4, pp.581-587  
(USSR).

ABSTRACT: Jeans has shown ("Cosmogony and Astronomy") that the following relationships hold for any law of change in the mass of the sun:

$$ma = \text{const.}$$
$$e = \text{const.}$$

where  $m$  is the mass of the sun (a function of time),  $a$  is the semi-major axis of the elliptic orbit being described at the instant by a satellite of a very small mass ("Cosmogony and Astronomy", C.U.P. 1928, page 291). It is claimed that this result is based on a simplification, the justification of which is not obvious. Jeans assumed that "the average value of  $1/r$  taken over a complete revolution is  $1/a$ " (where  $r$  = the modulus of the radius vector as a planet). This, however, will only be the case for an unperturbed Keplerian motion. The real trajectory in the problem of two bodies with

Card 1/4

The Restricted Problem of Two Bodies of Variable Mass. 33-4-7/19  
variable mass is not a conic section and its representation by an osculating conic section must be treated with caution.

The rigorous solution of the problem has so far been only given for two special cases of the law of variation of mass. (Cf. Meshcherskiy Ref. 5)

At the present time it is usual to assume that the loss of mass by a star may be represented by

$$\frac{dm}{dt} = (-am^n),$$

where  $a, m$  are constants. Meshcherskiy considered  $n = 2$  and  $n = 3$ . In the present paper the problem is re-examined once more. It is shown that the problem may be solved for  $-\infty \leq n \leq \infty$  if the solutions for  $1 \leq n_1 \leq 3$  are known, where  $n_1 = (3-2n)/(2-n)$ . This introduces a considerable simplification of the problem. The result is obtained by a transformation of the usual equations of motion into a more convenient form. For any value of  $n$  such a transformation reduces the above

Card 2/4 problem to the case of two bodies of constant mass the

The Restricted Problem of Two Bodies of Variable Mass. 33-4-7/19

motion of which is perturbed by two small forces one of which is proportional to speed, and acts like a "frictional force", and the other is a quasi-elastic central force which is attractive for  $n < 3/2$  and repulsive for  $n > 3/2$ . The latter is absent for  $n = 0$  or  $n = 3/2$ .

New special cases are found of the integrability of differential equations of motion of a material particle in the attractive field of a central body the mass of which changes with time and which is surrounded by a gravitating and resisting atmosphere. In particular, it is shown that if the mass of the central body changes exponentially while the resisting medium has a constant density then a periodic motion in a conic section is possible.

There are 1 figure, no tables, and 9 references 6 of which are Slavic.

SUBMITTED: November, 1, 1956.

ASSOCIATION: Yaroslav State Pedagogical Institute, named after K.D. Ushinskii. (Yaroslavskiy Gosudarstvennyy Pedagogicheskiy Institut im. K. D. Ushinskogo).

3.1400

26633  
S/044/60/000/003/005/012  
C111/G222

AUTHOR: Gel'fgat, B.Ye.

TITLE: Two cases of the integrability of the two-bodies problem for variable masses, and the application of these cases to the investigation of the motion in a resistant medium

PERIODICAL: Referativnyy zhurnal. Matematika, no.3, 1960, 86, abstract 3057 (Byul. In-ta teor. astron. AN SSSR, 1959, 7, no.5, 354-362)

TEXT: The author considers the problem of two bodies of a variable mass which changes according to the law  $\frac{dM}{dt} = \alpha M^n$ , where M -- mass, t -- time,  $\alpha$  and n are constants. Two new cases are reduced to quadratures: n = 0 and n = 3/2 which are different from the well-known cases of Meshcherskiy (n = 2 and n = 3). By the introduction of a new independent variable h which for a constant mass plays the part of the constant of the kinetic energy, the case n = 2 is reduced to a linear equation of third order the coefficients of which depend on h and which is solvable in Bessel functions. By a similarity transformation the case n = 3/2 is reduced to the preceding case. A qualitative investigation of the obtained solutions is given. The problem on the motion of a material point  
Card 1/2



f

Two cases of the integrability...

26633  
S/044/60/000/003/005/012  
C111/C222

in a non-gravitating resistant medium of constant density leads to the same case  $n = 0$  if the motion is generated by a central body of constant mass, and the resistance is proportional to the velocity.

Reviewer's remark: The qualitative results (e.g. on the constancy of the excentricity) of the paper relate to a system of elements which is determined by instantaneous values of the coordinates, velocities and masses. The latter condition distinguishes it from the usual osculating elements of celestial mechanics so that the author's final conclusions to these latter ones cannot be transferred without an additional investigation.

[Abstracter's note: Complete translation.]

Card 2/2

MUSPEL', Eval'd Rudol'fovich; GEL'FGAT, B.Ye., red.; AMBARTSUMYAN, V.A.,  
red.; SEVERNIYY, A.B., red.; SOBOLEV, V.V., red.; KRYUCHKOVA,  
V.H., tekhn.red.

[Stellar atmospheres] Zvezdnye atmosfery. Red.kollegia:  
V.A.Ambartsumian i dr. Moskva, Gos.izd-vo fiziko-matem.  
lit-ry, 1960. 444 p. (MIRA 14:2)  
(Stars--Atmospheres)

PIKEL'NER, Solomon Borisovich; GEL'FGAT, B.Ye., red.; PLAKSHE, L.Yu., tekhn.  
red.

[Principles of cosmic electrodynamics] Osnovy kosmicheskoi elektro-  
dinamiki. Moskva, Gos izd-vo fiziko-matem. lit-ry, 1961. 295 p.  
(MIRA 14:6)

(Cosmic electrodynamics)

S/269/63/000/002/002/037  
A001/A101

AUTHOR: Gel'fgat, B. Ye.

TITLE: On the problem of two variable-mass bodies in the presence of a  
perturbing force proportional to velocity

PERIODICAL: Referativnyy zhurnal, Astronomiya, no. 2, 1963, 8, abstract 2.51.101  
("Dokl. na nauchn. konferentsiyakh. Yaroslavsk. gos. ped. in-t",  
1962, v. 1, no. 3, 147 - 153)

TEXT: The author formulates the so-called problem of Meshcherskiy - Levi  
Civita for two bodies when the mass of a satellite varies according to the  
power law:  $m = \alpha m^n$  (1) and the velocity of particles of the varying mass with  
respect to the satellite is equal to zero. He shows that this problem can be  
reduced either to the two-body problem with the variable mass of a central body,  
when no reactive forces appear (the mass variation law has in this case also a  
power form), or to the initial problem but with another value of  $n$  in the above  
equation, or else to the classical celestial mechanics problem of constant masses  
in the presence of perturbing forces. Rigorous solutions of the Meshcherskiy -

Card 1/2

S/269/63/000/002/002/037  
A001/A101

On the problem of two...

Levi Civita problem have been found for the following values of  $n$ : -2; 1 and 4. It is shown that if the masses of the central body and of the satellite vary according to power laws of form (1), and the satellite is affected by perturbation force  $F = -mv$ , then at any values of exponents and proportionality coefficients (entering the laws of mass variability) the problem can be reduced to both the case when only the mass of the central body varies and to the case of variation of the satellite mass only.

B. G.

[Abstracter's note: Complete translation]

Card 2/2

L 53936-65 EWT(1)/EWP(n)/FS(r)-3/ENG(v)/I Po-4/Pe-5/Fq-4/Pg-4 Gii  
ACCESSION NR: AT5013790 UR/2913/65/005/000/0191/0204

AUTHOR: Gel'fgat, B. Ye.

TITLE: Asymptotic behavior of solutions of the problems of two bodies with variable mass

SOURCE: AN KazakhSSR. Astrofizicheskiy institut. Trudy, v. 5, 1965. Kinematika i dinamika zvezdnykh sistem i fizika mezhzvezdnoy sredy; materialy Vsesoyuznogo soveshchaniya, sostoyavshegосya v Alma-Ata 10-16 oktyabrya 1963 goda (Kinematics and dynamics of stellar systems and the physics of interstellar atmosphere; materials of the All-Union conference held in Alma-Ata from October 10-16, 1963), 191-204

TOPIC TAGS: two-body problem, adiabatic invariant, Gylden Meshcherskiy problem, orbit eccentricity, celestial mechanics, satellite orbit, variable mass satellite

ABSTRACT: Contemporary celestial mechanics study objects of constant mass. However, questions have been formulated concerning the dynamic effects and cosmogenic consequences caused by changes in the masses of celestial bodies over relatively long periods of time. More rigorous studies are called for, and in this article the author

Card 1/2

L 53936-65

ACCESSION NR: AT5013790

1) investigates the possibility of eccentricity increases following mass losses in the two-body system; 2) discusses motions for mass loss rates given by  $\mu = \alpha \mu^{\eta}$ ; 3) shows that the eccentricity does not increase beyond bounds with a continuous decrease in mass; 4) determines the limits of applicability of the adiabatic invariant; and 5) illustrates the results by analyzing the rigorous and approximate solutions of the Gylden-Meshchersky problem. The approach is also suitable for the solution of the Meshchersky-Levi-Civita problem (only the mass of the satellite is changing). Orig. art. has: 95 formulas.

ASSOCIATION: Astrofizicheskyy institut AN KazakhSSR (Astrophysics Institute, AN KazakhSSR)

SUBMITTED: 00

ENCL: 00

SUB CODE: AA, ME

NO REF SOV: 003

OTHER: 003

Card 2/2

GEL'FGAT, B.Ye.

Asymptotic behavior of solutions to the problem of two bodies  
of variable mass. Trudy Astrofiz. inst. AN Kazakh. SSR 5:191-  
204, 1965. (MIRA 18:6)



VORONTSOV, N.I.; GEL'FGAT, D.B.; LUNEV, I.S.; OSHNOKOV, V.A.;  
STEFANOVICH, Yu.G.; RAYEVSKIY, N.P., doktor tekhn. nauk,  
retsensent; NAKHIMSON, V.A., inzh., red.; EL'KIND, V.D.,  
tekhn. red.; VLADIMIROVA, L.A., tekhn. red.

[Strain measurement in motor vehicle parts] Tenzometrirovanie detalei avtomobilia. [By] N.I.Vorontsova i dr. Pod red. I.S.Luneva. Moskva, Mashgiz, 1962. 230 p. (MIRA 15:4)

1. Tsentral'nyy nauchno-issledovatel'skiy avtomobil'nyy i avtomotorny institut (for Vorontsov, Gel'fgat, Lunev, Oshnokov, Stefanovich).

(Strain gauges)

(Motor vehicles--Testing)

GEL'FGAT, D. B.; VORONTSOVA, N. I.; BELYAKOV, N. I.

Methods and equipment for testing the strength of motorbus  
bodies. Avt. prom. 28 no.9:18-21 S '62. (MIRA 15:10)

(Motorbuses—Bodies—Testing)

GEL'FGAT, David Benjaminovich; OSHNOKOV, Vladimir Aminovich; BEZUKHOV,  
N.I., prof., retsenzent; LIPGART, A.A., prof., red.; NAKHIMSON,  
V.A., inzh., red.; EL'KIND, V.D., tekhn.red.

[Truck frames] Rany gruzovykh avtomobilei. Pod red. A.A.Lip-  
garta. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry.  
1959. 228 p. (MIRA 13:6)  
(Motortrucks--Frames)

GEL'FGAT, D.B.; OSHNOKOV, V.A.; MIKHAYLYUTA, D.A. [deceased]; ORLOV, B.N.

Investigating the strength of the cab of the ZIL-130 motortruck.  
Avt.prom. 29 no.1:12-14 Ja '63. (MIRA 16:1)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni  
nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut  
i Moskovskiy avtosavod imeni Likhacheva.  
(Motortrucks--Bodies)

L 01084-67	EMT(m)/EMP(j)	IJP(c)	RM
ACC NRI	AP6026310	(A)	SOURCE CODE: UR/0113/66/000/005/0013/0015
AUTHOR: <u>Gel'fgat, D. B.</u> (Candidate of technical sciences); <u>Davlyudov, L. O.</u> ; <u>Skvortsov, S. B.</u> (Candidate of technical sciences)			35 32 B
ORG: <u>NAMI</u>			
TITLE: A method for stand-testing automobile body <u>vibrations</u> <i>AM</i>			
SOURCE: <u>Avtomobil'naya promyshlennost'</u> , no. 5, 1966, 13-15			
TOPIC TAGS: highway vehicle data, flexural vibration, torsional vibration, vibration test, <i>MOTOR VEHICLE</i>			
ABSTRACT: The authors describe a method developed at NAMI for studying the natural frequencies of vibrations in a compact automobile body. The method was used for stand-testing the "Moskvich-407" automobile body. The tires were removed from the automobile to eliminate distortions in instrument readings due to resonance of components not supported by springs. The car was held 1.5 m above floor level. Epoxy glue was used for fastening the pickup holders to the support members of the frame and the body panels. The pickups were then threaded into these holders. The vibrator is made in two independent sections for generating directed forces. These sections are interconnected by a shaft and put into motion by a 2.3 kw DC electric motor through a flexible shaft. Motor speed is controllable from 0 to 5500 rpm by varying the supply voltage.			
Card 1/2		UDC: 629.11.011.5;62-752.001.4	

L 01084-67

ACC NR: AF6026310

3

This corresponds to a frequency range of about 0-90 cps. The overall weight of the vibrator is about 35 kg. A connecting shaft and clutch may be used for connecting both sections of the vibrator in phase or antiphase. In the first case, flexural vibrations are generated and torsional vibrations result in the second case. An IV-1 vibration measuring instrument developed at NAMI was used for determining vibrational accelerations and displacements at various points on the automobile. An N-102 oscillograph was used for recording the readings. Barium titanate <sup>10</sup>VZU-3 piezoelectric transducers were used as the primary pickups. The "Moskvich-407" automobile was tested in two stages for body vibrations in the 7-35 and 35-90 cps ranges. The results show flexural vibrations of 26-27 cps and torsional vibrations of 20-22 cps. Curves are given showing the amplitude-frequency characteristics at low and high frequencies. A table is given showing the resonance frequencies of various parts of the body. A number of the basic body panels resonate on frequencies close to 80 cps which explains the reduction in the comfort index of the automobile when type R tires are used which have resonance frequencies close to this value. Orig. art. has: 4 figures, 2 tables.

SUB CODE: 13/ SUBM DATE: None/ ORIG REF: 001/ OTH REF: 002

Card 2/2 vlr

GEL'FGAT, D. V.

"Method of Calculation of the Vibrations of an Automobile Taking Into Account Unsprung Weight, Shock Absorbers With Asymmetrical Characteristics, and Friction." Sub 27 Oct 51, State Sci Res Order of Labor Red Panner Automobile and Automotive Inst (NAMI)

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

1. TOMILIN, N. N. - GEL'FGAT, D. V. - DOLMATOVSKIY, Yu
2. USSR (600)
4. Automobiles - Testing
7. "Testing automobiles." B. S. Fal'kevich, N. V. Divakov. Reviewed by N. N. Tomilin, D. V. Gel'fgat, Yu. Dolmatovskiy, Avt. trakt. prom. no. 11, 1952

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



GEL'FGAT, D.V., kandidat tekhnicheskikh nauk.

Longitudenal angular rocking of an automobile. Avt.trakt.prom. no.7:13-  
16 JI '53. (MLBA 6:8)

1. Nauchnyy avtometernyy institut. (Stability of automobiles)

GEL'FGAT, D. V.

USSR/Engineering - Measuring instruments

Card 1/1 ; Pub. 12 - 9/16

Authors : Gel'fgat, D. V.; and Oshnikov, V. A.

Title : ~~Measuring stresses in an automobile chassis during road tests~~  
Measuring stresses in an automobile chassis during road tests

Periodical : Avt. trakt. prom. 8, 25-27, Aug 1954

Abstract : A description is presented of an instrument used for measuring and recording stresses in an automobile chassis under road conditions. Illustrations; diagrams; graphs; tables.

Institution : .....

Submitted : .....

OKL'FGAT, D.V., kandidat tekhnicheskikh nauk, OSHNOKOV, V.A., kandidat tekhnicheskikh nauk.

Calculating torsion in truck frames. Avt. i trakt. prom. no.10:  
8-14 0 '55. (MLRA 9:1)

1.Nauchnyy avtomotornyy institut.  
(Motortrucks--Frames)

GEL'FGAT, D.V., kandidat tekhnicheskikh nauk.

Angles of body incline during the acceleration and braking of automobiles. Avt.i trakt.prom. no.11:15-19 N '56. (MIRA 10:1)

1. Nauchno-issledovatel'skiy avtomotorny institut.  
(Stability of automobiles)

SOV/113-58-2-4/15

AUTHORS: Gel'fgat, D.V., Oshnokov, V.A., Candidates of Technical Sciences

TITLE: Calculation of Frame Longerons for Bending by Static Stress  
(Raschet lonzheronov ram na izgib staticheskoy nagruzkoy)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 2, pp 13 - 17  
(USSR)

ABSTRACT: The bending of longerons by static stress is calculated by regarding the longeron as a girder supported by springs. In Figure 1 a diagram of the various bending moments is given. The use of a formula (5) reduces the calculation work considerably. The calculation of frame longerons in the automobiles ZIL-150, GAZ-51 and MAZ-200 is presented as an example. The various stresses are given in Tables 1-3. The weight of all parts is distributed according to the center of gravity. Figure 2 shows the results of the

Card 1/2

SOV/113-58-2-4/15  
Calculation of Frame Longerons for Bending by Static Stress

calculations for all three automobiles. The dotted line represents the configuration of the longerons. There are 4 tables, 1 graph and 1 diagram.

ASSOCIATION: NAMI

1. Automobile industry
2. Passenger vehicles--Stresses
3. Stress analysis

Card 2/2

Гел'фгат, Д.В.

113-58-3-4/16

AUTHORS: Briskin, M.I.; Gel'fgat, D.V., Candidate of Technical Sciences; Pevzner, Ya.M., Doctor of Technical Sciences; Tikhonov, A.A.

TITLE: Dynamic Stress in Truck Bodies (Dinamicheskiye nagruzki v kuzovakh gruzovykh avtomobiley)

PERIODICAL: Avtomobil'naya Promyshlennost', 1958, Nr 3, pp 12-16 (USSR)

ABSTRACT: At the present time, trucks are fitted with special apparatuses which are often sensitive to shocks, etc. The transporting of fragile freight also makes protection against shocks necessary. Experiments were made, therefore, to measure accelerations in the trucks ZIL-151 and GAZ-63 acting in vertical and horizontal directions. For this purpose an optical accelerograph type NAMI was used (Figure 1). A beam of light was directed on a mirror which transduces the movement of the chassis and causes oscillations of the beam. These oscillations were registered by a film camera. The speed of the film was 18 mm/sec. The transducer of the apparatus is represented in Figure 3. The two truck types were loaded with 10 and 50% of their nominal capacity. The roads

Card 1/3

Dynamic Stress in Truck Chassis

113-58-3-4/16

on which the tests took place were of two types: cobblestone and country dirt roads. The speed was 30 km/h. Measurements were made on sections of 200 m. The oscillations arising in the chassis are represented in Table 1. Higher oscillation frequencies, from 400 to 600 oscillations per minute, were caused by the hardness of the tires, etc. Still higher frequencies, from 1,400 to 2,200 oscillations per minute, were caused by the vibrations engine. Vertical accelerations of the chassis bottom of the truck ZIL-151 are represented in Table 2 (cobblestone roads), and Table 3 (country dirt roads). The tables show that in some cases the accelerations reached 50 m/sec<sup>2</sup>. More frequent were accelerations of 30-35 m/sec<sup>2</sup>. In the back part of the chassis the accelerations were higher than in the front part. Table 4 represents the values for the truck GAZ-63, loaded with 10% of its nominal load and moving at 20 km/h. The measured values reached 45-48 m/sec<sup>2</sup> at times. Accelerations of 30-35 m/sec<sup>2</sup> were more frequent. Longitudinal accelerations in the truck ZIL-151 are shown in Table 5, and in the truck GAZ-63 in Table 6. These accelerations sometimes exceeded 50 m/sec<sup>2</sup>. Dynamic stresses were reduced by rubber shock absorbers. Their application to a

Card 2/3



Dynamic Stress in Truck Bodies

113-58-3-4/16

box of 100 kg decreased the accelerations to 25-30 m/sec<sup>2</sup>.  
The greatest dynamical stresses arised in loose loads. In  
these cases the accelerations of the freight reached values  
of 40 g (1 g = 9.8 m/sec<sup>2</sup>).  
There are 5 figures, and 6 tables.

ASSOCIATION: NAMI

AVAILABLE: Library of Congress

Card 3/3 1. Cargo vehicles-Test methods

OKL'FOAT, David Beniaminovich; OSHNOKOV, Vladimir Aminovich; LIPGART,  
A.A., prof., red.; BEMUKHOV, M.I., prof., retsazent; NAKHIMSON,  
V.A., inzh. red.; EL'KIND, V.D., tekhn.red.

[Motortruck frames] Rany gruzovykh avtomobilei. Pod red. A.A.  
Lipgarta. Moskva, Gos.nauchno-tekhn.isd-vo mashinostroit.lit-ry,  
1959. 231 p. (MIRA 13:3)  
(Motortrucks--Frames)

BAKHAREV, A.P.; BOCHAROV, N.F.; GEL'FGAT, D.B.; DMITRICHENKO, S.S.;  
OSHNOKOV, V.A.

Durability of the frames of general purpose caterpillar tractors.  
Trakt. i sel'khoz mash. no.4:4-12 Ap '59. (MIRA 12:5)  
(Tractors)

(

SOV/113-59-5-19/21

AUTHORS: Gel'fgat, D.V., Candidate of Technical Sciences;  
Vorontsova, N.I.

TITLE: Critique and Bibliography

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 5, pp 46 -  
47 (USSR)

ABSTRACT: The authors review the book by A.F. Feofanov "Raschet  
ty tonkostennykh konstruktsiy" (The Calculation of  
Thin-Walled Constructions), Oborongiz, 1953. The  
authors discuss the eight chapters of this book,  
stating that it might be a valuable aid for the  
automobile engineer for designing bodies, although  
the book was primarily intended for aircraft design.

ASSOCIATION: NAMI

Card 1/1

157 AND 150, DRUMS

PRECESSES AND PREPARATION

39

NEW CONSTRUCTION OF TANNING DRUM TAU M /  
CAL'LAND. Lehigh Univ. 1946, No. 9, 13, 14. Descrip-  
tion and diagram of an eccentric horizontal tanning drum  
G. M. Kozlapoff

ABB-314 METALLURGICAL LITERATURE CLASSIFICATION

157 AND 150, DRUMS

PRECESSES AND PREPARATION

157 AND 150, DRUMS

PRECESSES AND PREPARATION

GELFOOT, M. Z.

CA

Tanning of sole and saddle leather with Syntan AF  
M. Z. Gel'fot and S. V. Gerasov, *Lezbna Prom.* 7,  
No. 3, 31 (61917); *Chem. Zvest.* 1967, 1, 1051. Syntan  
AF is prepolymer by condensation of phenol and HClHO in an  
aqueous soln. and subsequent treatment with Na<sub>2</sub>CO<sub>3</sub>.  
Expts. with various types of leathers showed the prepoly-  
mer to be of value for maintaining a definite pH during the  
tanning process. M. G. Moser

27

AND IS A RETENTIONAL LITERATURE CLASSIFICATION

CA

GELFOM M.Z.

29

Optimum conditions of using spruce extract. M. Z. Gelfom. *Lezhaya Prom.* 11, No. 4, 32-3(1951). In chrome-vegetable tanning of hard leathers, optimum conditions for use of spruce ext. are: pH 4.7-5.0 and 4.0-4.4, temp. 20-30° and 43-48°, liquid coeff. 1.6-1.8 and 1.4-1.6, and duration 12-16 and 30-40 hrs. in 1st and 2nd phases, resp. Max. allowable amt. of syntan AN and sulfite cellulose ext. is 20%. The leather was clear, of good appearance, and had a high degree of tannage. B. Z. Karich

GEL'FAT, M.Z.

Experience in the standardization of the methods for oiling various chrome leathers using synthetic oils. Kosh.-obuv.prom. 5 no.3:35-36  
Mr '63. (MIRA 16:3)

1. Glavnyy inzh. Rzhakogo kozhevennogo zavoda "Kommunar".  
(Leather)



BOGOMOLOVA, Ye.S.; GEL'FGAT, S.A.; YERMILOVA, N.I.; DROZDOV, B.M., otv. red.;  
ORLOVA, I.A., red.; POPOVA, N.S., tekhn. red.

[Description of the programming system of the "Ural" electronic  
digital computer] Opisanie sistemy komand elektronnoi vychislitel'-  
noi mashiny "Ural." Izd.2., ispr. Moskva, Vychislitel'nyi tsentr AN  
SSSR, 1961. 151 p. (MIRA 14:11)

(Electronic digital computers)  
(Programming (Electronic computers))

GELFEGAT, S. I., Engineer

"Boring Holes on Diamond Boring Machines of the Plant imeni Lenin and the Ekstselio Plant," Stanki I Instrument, 17, No. 12, 1946

BR-52059019

GEL'FGAT, Samuil Naumovich; KURSAKOV, S.F., ekon., retsenzent; TROITSKIY, P.A., ekon., red.; ANTIPOV, V.P., red. izd-va; SMIRNOVA, G.V., tekhn. red.

[Production costs of a machinery manufacturing enterprise] Sebstoimost' produktov mashinostroitel'nogo predpriatia. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 126 p.  
(MIRA 14:8)

(Machinery industry—Costs)

MEVE, Ye.B., podpolkovnik meditsinskoy sluzhby, kand.med.nauk; GORBUNOV,  
A.V., polkovnik meditsinskoy sluzhby; GEL'FGAT, V.I., mayor  
meditsinskoy sluzhby

Method for vaccination against tuberculosis. Voenn.-med.zhur.  
no.8:35-39 Ag'58. (MIRA 16:7)  
(TUBERCULOSIS—PREVENTIVE INOCULATION)  
(MEDICINE, MILITARY)