BELEN'KIY, G. S.

32686. Ob uslovnom pishchevom leykotsitoze. Soobshch. 1. v. Sb: Nervno - gumoral'-nyye regulyatsii deyatel'nosti pishchevarit. Apparata m. 1949, s. 265-80. - Bibliogr: s. 279-80

SO: Letopis' Zhurnal'nykh Statey, Vol. 44, Moskva, 1949

BELEN'KIY, G. A.

Role of nervous system in regulation of morphological composition of peripheral blood. Klin. med., Moska. 28 no.9: 52-63 Sept. 1950. (CIML 20:1)

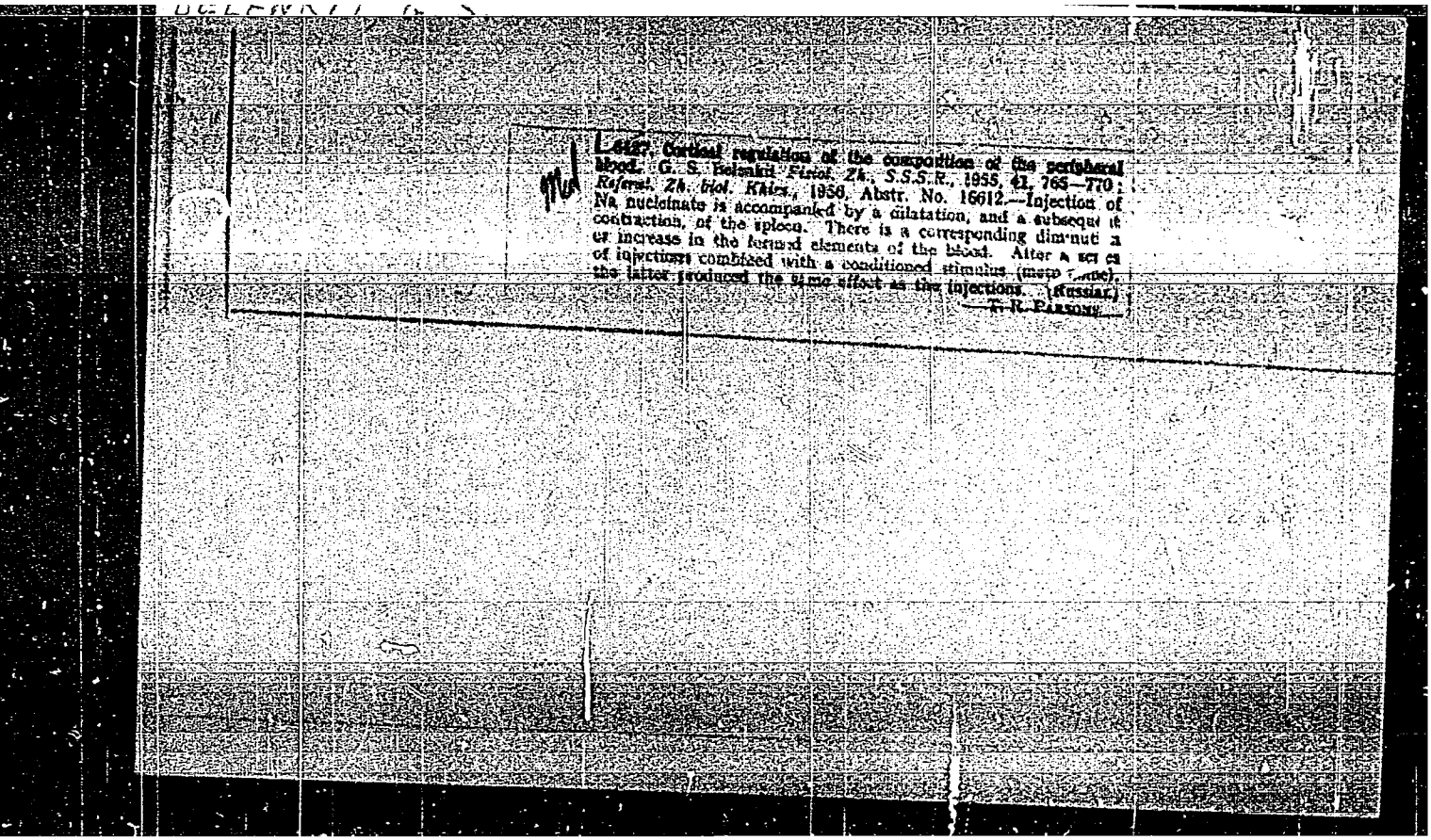
1. Of the Laboratory of Clinical Physiology (Head -- Prof. A. V. Rikkl') of the Department of General Physiology, Institute of Experimental Medicine (Head -- Academician K. M. Bykov) of the Academy of Medical Sciences USSR.

BELEN'KIY, G.S.(Leningrad)

Experimental neurosis manifested by splenic motor function disorders and by irregularities in the composition of peripheral blood. Klin. med. 33 no.9:49-57 S '55. (MLRA 9:2)

1. Iz otdela obshchey fiziologii (zav.-prof. A.V. Rikkl', nauchnyy rukovoditel'-akad. K.M. Bykov) Instituta eksperimental'noy meditsiny AMN SSSR.

(NEUROSES, experimental,
blood picture & spleen motor disord. in)
(BLOOD
picture, in exper. neuroses)
(SPLEEN, in various diseases,
exper. neuroses, motor disord.)



L 6427. Cortical regulation of the composition of the peripheral blood. G. S. Belenkii. *Fiziol. Zh. S.S.S.R.*, 1955, 41, 765—770; *Referat. Zh. biol. Khim.*, 1956, Abstr. No. 16612.—Injection of Na nucleinate is accompanied by a dilatation, and a subsequent contraction, of the spleen. There is a corresponding diminution or increase in the formed elements of the blood. After a series of injections combined with a conditioned stimulus (metronome), the latter produced the same effect as the injections. (Russian.)

—T. R. Parsons

BELEN'KIY, I.

Facilitate the opening of new housing. Fin.SSSR 18 no.7:42 Jl '57.
(MLRA 10:7)

1. Glavnyy inzhener Kommunal'nogo banka Azerbaydzhanskoy SSR.
(Housing)

HELMN'KIY, I.

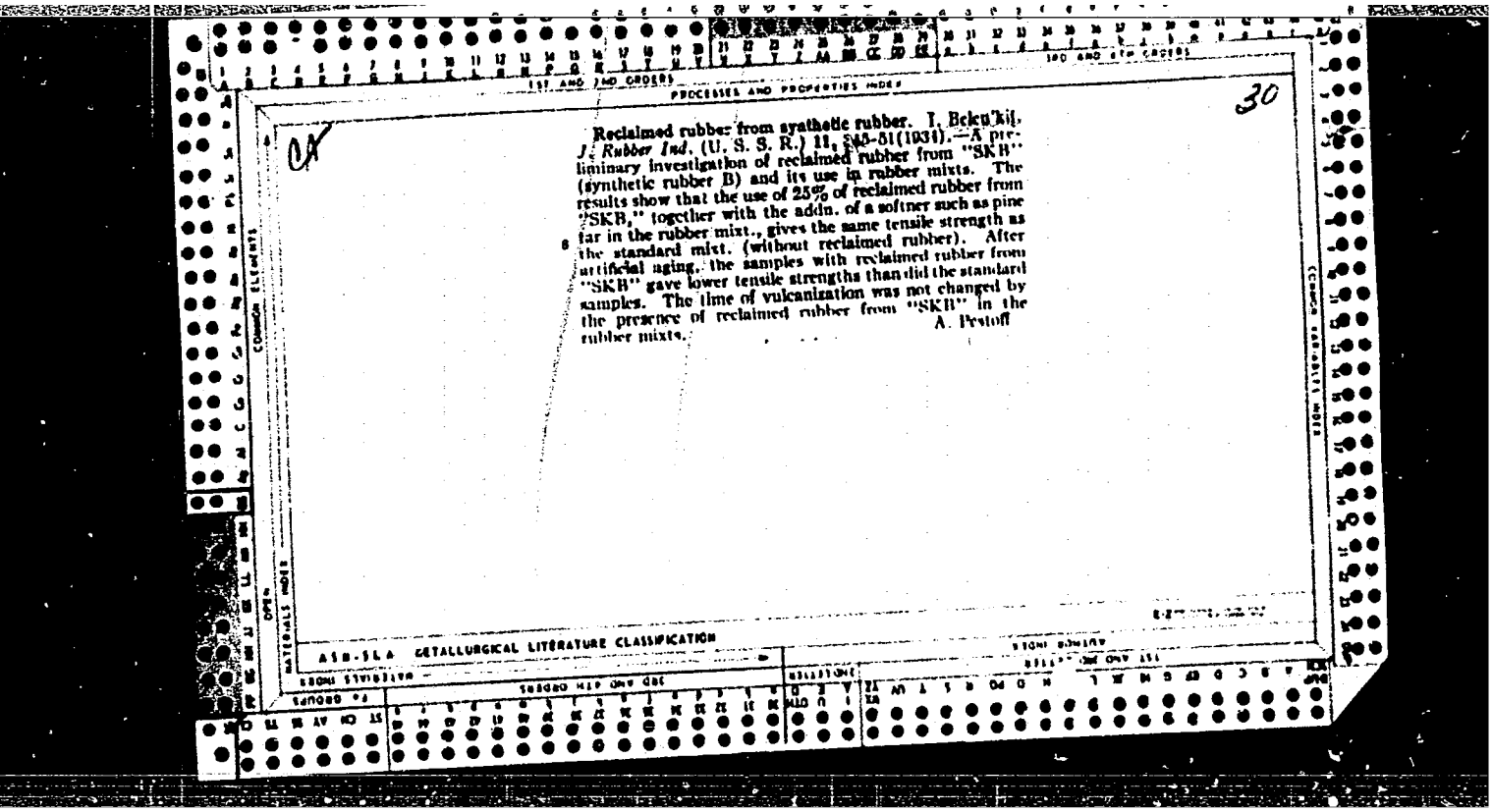
Compound method of determining deductions for natural factors when receiving grain from collective and state farms. Muk.-elev. prom. 24 no.7:13-14 Jl '58. (MIRA 11:10)

1.TSentral'naya bukhgalteriya Ministerstva khleboproduktov SSSR.
(Grain trade)

Hidden potentialities for economy in construction.
Vin. SSSR 20 no.7-6(Jl '59. (MIRA 12:11)
(Azerbaijan - Construction industry)

[illegible]LANSKIY, I., inzh.; YESIMONTOVSKIY, M., inzh.; Primimal uchastiey: KRYUKOV, V.

Pressing with cold water in repairing tires. Avt.transp. 40 no.11:26-28 N '62. (MIRA 15:12)
(Tires, Rubber—Retreading and recapping)

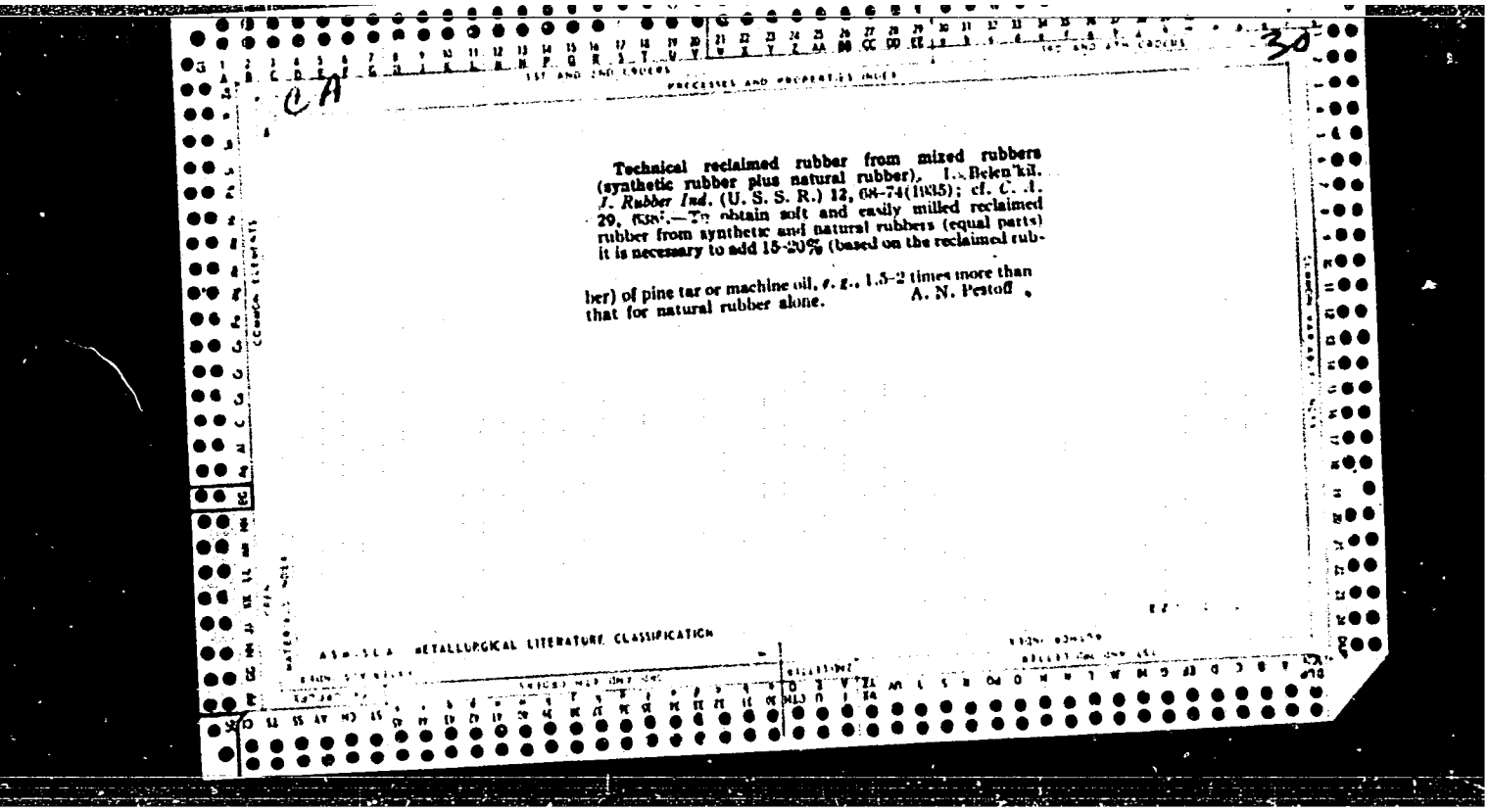


PROCESSES AND PROPERTIES INDEX

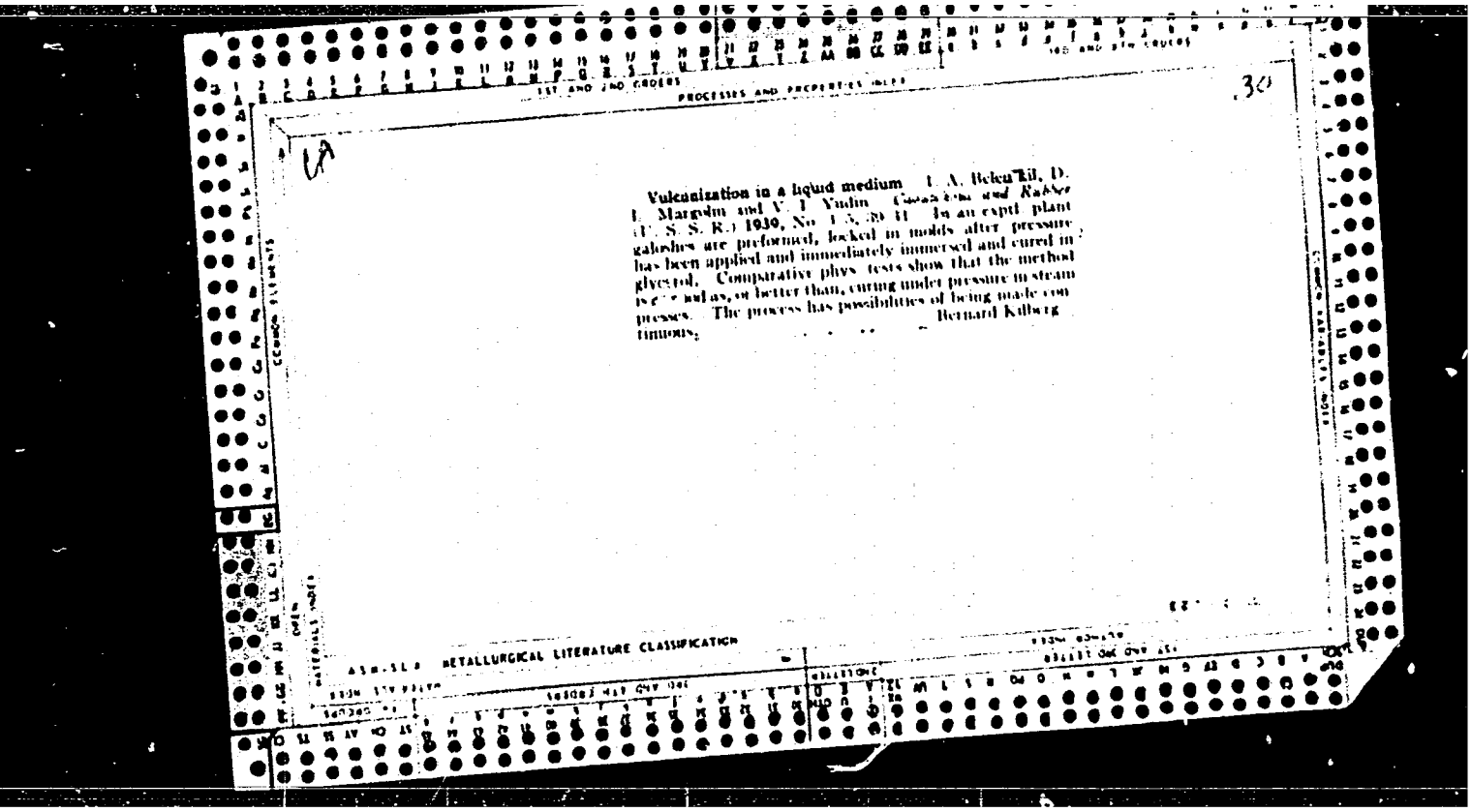
30

Reclaimed rubber from synthetic rubber. I. Bekuškil. *J. Rubber Ind.* (U. S. S. R.) 11, 343-51(1934).—A preliminary investigation of reclaimed rubber from "SKB" (synthetic rubber B) and its use in rubber mixts. The results show that the use of 25% of reclaimed rubber from "SKB," together with the addn. of a softner such as pine tar in the rubber mixt., gives the same tensile strength as the standard mixt. (without reclaimed rubber). After artificial aging, the samples with reclaimed rubber from "SKB" gave lower tensile strengths than did the standard samples. The time of vulcanization was not changed by the presence of reclaimed rubber from "SKB" in the rubber mixts. A. Prstoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Technical reclaimed rubber from mixed rubbers (synthetic rubber plus natural rubber). I. Belen'kii. *J. Rubber Ind.* (U. S. S. R.) 12, 68–74(1935); cf. C. A. 29, 6387.—To obtain soft and easily milled reclaimed rubber from synthetic and natural rubbers (equal parts) it is necessary to add 15–20% (based on the reclaimed rubber) of pine tar or machine oil, *e. g.*, 1.5–2 times more than that for natural rubber alone. A. N. Pestoff



Vulcanization in a liquid medium. I. A. Bekuškil, D. I. Margolin and V. I. Yudin. *Caoutchouc and Rubber* (U. S. S. R.) **1939**, No. 1, 5-9. In an exptl. plant galoshes are preformed, locked in molds after pressure has been applied and immediately immersed and cured in glycerol. Comparative phys. tests show that the method is equal to, or better than, curing under pressure in steam presses. The process has possibilities of being made continuous. Bernard Kilburg

BELEN'KIY, I.A.; YESIMONTOVSKIY, M.G.; ZAKRUTKIN, V.F.; SUDAKOV, N.P.; ALEKSEYEV, V.N., kandidat tekhnicheskikh nauk, retsenzent.

[Manual on repairing automobile tires] Rukovodstvo po remontu avtomobil'nykh shin. Leningrad, Gos. nauchno-tekh. izd-vo mashinostroit. i sudostroit. lit-ry, 1953. 136 p. (MLRA 7:5)

(Automobiles--Tires)

HELEN'KIY, I.; ZAKRUTKIN, V.;

Simple method of testing tire repair materials. Avt.transp.32 no.10:23 O '54. (MIRA 7:12)

1. Leningradskiy shinoremontnyy zavod.
(Automobiles--Tires)

BELEN'KIY, I.

"Improving the technological processes of automobile tire repairing" by V.P. Koval'chuk. Reviewed by I. Belen'kii. Avt. transp. 36 no. 6:61 Je '58. (MIRA 11:7)
(Automobiles--Tires--Maintenance and repair)
(Koval'chuk, V.P.)

S/138/60/000/007/008/010
A051/A029

AUTHORS: Okhrimenko, I.S.; Belen'kiy, I.A.; Potapenko, M.N.; Veynberg, I.A.

TITLE: A Study of the Internal Pressures During the Molding and Vulcanization Processes of Rubber

PERIODICAL: Kauchuk i Rezina, 1960, No. 7, pp. 39 - 44

TEXT: A study of the "internal pressure" produced within the mold during the heating and vulcanization of rubber is of the greatest interest, since it is one of the main factors in securing monolithic products in the manufacturing of molded rubber articles. It is also important for determining the right amount of rubber mixture consumed in the process and for the rational utilization of energy in the plants. The range of pressures used in rubber manufacturing is from 12 kg/cm^2 to 600 kg/cm^2. In the thermal processing of rubber and rubber mixtures volumetric changes take place at a constant external pressure and a change takes place in the "internal" pressures at a constant volume of the polymer. The Leningrad "Skorokhod" Plant was first to use the instrument shown diagrammatically in Figure 1 for the determination of volumetric change in rubber during vulcanization. An-

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A Study of the Internal Pressures During the Molding and Vulcanization Processes of Rubber.

other instrument of the Poisson type was developed for the measurements of internal pressures (Fig. 3). A further description of the instrument and the method used for the experiments is given. The internal pressure was calculated by the formula:

$$P_{int.} = \frac{K_{con.} - (P_{start.} + \Delta P)}{S_r} \cdot S_p,$$

since the principle of the instrument is based on the compensation of the internal pressure of the rubber by means of a pressing unit. $K_{con.}$ is the pressure after the heating of the rubber, $P_{start.}$ is the starting pressure 5 kg/cm^2, ΔP the correction of the thermal expansion of the instrument parts and the press, S_r - the area of the cross-section of the rubber sample (usually 4.52 cm^2), S_p - the area of the cross-section of the press plunger (254.34 cm^2). The change in the volume of the rubber mixtures during the heating and vulcanizing process, as well as the change in the internal pressure during those processes are further discussed. The conditions for reducing the amount of vulcanized rubber waste were sought and it is stated that these might be accomplished by the use of a sealed mold of the

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A051/A029

A Study of the Internal Pressures During the Molding and Vulcanization Processes of Rubber

Poisson type in the rolling process. It was found that the amount of rubber waste depended on the type of mold used, the weight of the raw material, calibre, etc. The internal pressure of rubbers, vulcanized in the hermetically-sealed Poisson-type molds reaches high values and exceeds the external pressures used in industry by 10 to 20 times. Due to the fact that the internal pressure in these molds is always greater than the external pressure, a qualitative molding and vulcanization of the rubbers can be accomplished, the excess usage of rubber from raw semi-finished articles can be brought to a minimum, as well as that of the vulcanized waste products, and it can also eliminate certain types of waste products. In this case light-weight and low-energy equipment can be utilized. An external pressure of 10 - 12 kg/cm^2 is sufficient for the initial molding of the rubber article, which determines the necessary power of the equipment. The subsequent molding would be ensured by the constant presence of the internal pressure, which is greater than the external one during the vulcanization of the rubber. The amount of the rubber in the hermetically-sealed mold remains constant, and the volume changes slightly according to the temperature and pressure. It is emphasized that the findings of

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A Study of the Internal Pressures During the Molding and Vulcanization Processes of Rubber

these tests render the use of heavy equipment and high pressures unnecessary, in addition to serving as a basis for the vulcanization of rubber products in closed *molds outside the vulcanization process. The use of hermetically-sealed Poisson*-type molds for general use in the manufacturing of molded rubber articles is recommended. There are 4 diagrams, 6 graphs, 2 tables and 5 Soviet references.

ASSOCIATION: Leningradskiy Tekhnologicheskiy institut im. Lensoveta i Leningradskaya fabrika "Skorokhod" (Leningrad Technology Institute im. Lensovet and the Leningrad Plant "Skorokhod")

Card 4/4

BELEN'KIY, I.A.

Ways of improving the construction of sectional curing chambers (curing bags) and increasing their life. Kauch. i rez. 19 no. 11:36-43 N '60. (MIRA 13:11)

1. Leningradskiy shinoremontnyy zavod.
(Tires, Rubber)

BEL'N'KIY, I.A.

Effect of some factors on the service life of individual curing chambers (curing bags). Kauch. i rez. 20 no.11:48-55 N '61. (MIRA 15:1)

1. Leningradskiy shinoremontnyy zavod.
(Vulcanization)

BELEN'KIY, I.A.

Basic principles of designing the outer shape of sectional boiling bags. Kauch.i rez. 21 no.11:39-45 N '62. (MIRA 15:12)

1. Leningradskiy shinoremontnyy zavod.
(Tires, Rubber—Repairing)
(Vulcanization)

BELEN'KIY, I.A.

Method for the calculation and design of collapsible drums for the assembly of sectional curing bags. Kauch. i rez. 22 no.11: 40-44 N '63. (MIRA 17:2)

1. Leningradskiy shinoremontnyy zavod.

BELEN'KIY, I.B., gvardii mayor meditsinskoy sluzhby

Paste for cleaning heavily soiled hands. Voen.-med.zhur. no.10:73 O '56. (MLRA 10:3)

(CLEANING COMPOUNDS)

BELEN'KIY, I.B.

Cleaner and protective paste for protecting the skin from suppurative diseases. Zdrav.Belor. 3 no.10:49-50 O '57.
(MIRA 13:6)

1. Iz Belorusskogo kozhno-venerologicheskogo instituta (direktor - prof. A.Ya. Prokopchuk).
(SKIN--CARE AND HYGIENE) (OINTMENTS)

BELEN'KIY, I.B.

Second modification in the cleansing and protecting paste for the prevention of occupational skin diseases. Sbor.nauch.rab.Bel.nauch.-issl.kozhno-ven.inst. 6:338-340 '59. (MIRA 13:11)
(HAND--CARE AND HYGIENE)
(OINTMENTS)

BELEN'KIY, I.B.

New cleansing and protective paste for the prevention of pyroderma and other industrial diseases of the skin. Vest.derm.i ven. no.7: 51-53 '61. (MIRA 15:5)

1. Iz Belorusskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (dir. - akad. A.Ya. Prokopchuk), Minsk.
(SKIN--DISEASES)

BELEN'KIY, I.E.; KAUFMAN, I.M.

Epidemic significance of atypical forms of dysentery. Zdrav.Bel. 8 no.5:19-20 My '62. (MIRA 15:10)

1. Iz infektsionnoy bol'nitsy Minska i kabineta kishechnykh infektsiy No.9.

(DYSENTERY)

BELEN'KIY, I.E.

Blood changes in scarlet fever. Zdrav. Bel. 9 no.2:49-50 F'63.
(MIRA 16:7)

1. Iz kafedry infektsionnykh bolezney Belorusskogo gosudarstvennogo instituta usovershenstvovaniya vrachey (za. kafedroy - prof. M.N.Bessonova) i Minskoy infektsionnoy klinicheskoy bol'nitsy (glavnyy vrach Z.G.Alikina)
(SCARLET FEVER) (BLOOD--ANALYSTS AND CHEMISTRY)

BELEN'KIY, I.E.; TRUSOVA, Z.I.

Present course of scarlet fever. Zdrav. Bel. 9 no.8:14-15 Ag '63 (MIRA 17:3)

1. Iz kafedry infektsionnykh bolezney Belorusskogo gosudarstvennogo instituta usovershenstvovaniya vrachey (zav. - prof. M.N. Bessonova) i Minskoy infekstionnoy klinicheskoy bol'nitsy (glavnyy vrach Z.G. Alikina).

BABKOV, V.F., BELEN'KIY, I.I., BIRULYA, A.K., prof. doktor tekhn. nauk,; BIRULYA, V.I., DADENKOV, Yu. N., ZAMAKHAYEV, M.S., KAZANSKIY, K.A., KREMROD, L.L., KUDRYAVTSEV, A.S., TERENETSKIY, K.S., MAL'KOVA, N.V., tekhn. red.

[Handbook for road construction engineers; planning highways] Spravochnik inzhenera-dorozhnika; proektirovanie avtomobil'nykh dorog. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1958. 438 p. (MIRA 11:10)

(Roads)

BELEN'KIY, I.I.

[Lectures on operational calculus; for students of power and electrical engineering faculties] Lektsii po operatsionnomu ischisleniiu; dlia studentov energeticheskogo i elektromekhanicheskogo fakul'tetov. Novocherkassk, Per.-izd. otdel NPI. Vol.1. 1960 . 1 v. (MIRA 18:9)

BRLEN'KIY, Il'ya Markovich; SHAPIRO, YAkov Moiseyevich; YAKOVLEV, Boris Mikhaylovich; MOZZHUKHIN, N.A., red.; VYSOTSKAYA, R.S., red.; GOLUBKOVA, L.A., tekhn.red.

[Accounting in grain-receiving stations] Bukhgalterskii uchet na khlebopriemnykh punktakh. Pod red. N.A. Mozzhukhina. Moskva, Izd-vo tekhn. i ekon. lit-ry po voprosam mukomol'no-krupianoi, kombikormovoi promyshl. i elevatorno-skladskogo khoz., 1957. 390 p. (MIRA 11:8)

(Grain trade--Accounting)

BELEN'KIY, I. M.

"Vortex Theory of a Flat Lattice Wing," Prik. Mat. i Mekh., 3, No. 2, 1939

BRIEF COMMUNICATIONS

AUTHOR: Belen'kiy, I. M. (Moscow). 24-4-17/34

TITLE: On a theorem of Langevin (Ob odnoy teoreme Lanzhevena.)

PERIODICAL: "Izv. Ak. Nauk, Otd. Tekh. Nauk" (Bulletin of the Ac. Sc., Technical Sciences Section), 1957, No.4, pp.121-122 (USSR).

ABSTRACT: Utilising assumptions made in internal ballistics (2) the Langevin formula is obtained. Langevin did not prove his assumptions and in view of the importance of his formula from the point of view of rocket ballistics a very simple assumption is made in this paper which is based solely on energy considerations for the case of steady state flow of gases from a chamber with a nozzle. The conditions are also determined at which a steady state flow is possible. There are 3 references, 2 of which are Russian.

SUBMITTED: December 8, 1956.

AVAILABLE:

Card 1/1

AUTHOR: Belen'kiy, I.M. (Moscow) 40-22-2-20/21

TITLE: The Quasi-Stationary Discharge of a Gas out of a Cylindrical Receptacle With Variable Volume (Kvazistatsionarnoye istechenie gaza iz tsilindricheskogo sosuda peremennogo ob"yema)

PERIODICAL: Prikladnaya matematika i mekhanika, 1958, Vol 22, Nr 2, pp 279-285 (USSR)

ABSTRACT: The author considers a problem which possesses a certain importance for the theory of rocket power plants and in internal ballistics. The author investigates the discharge of a gas out of a cylindrical receptacle, the posterior wall of which is movable, i.e. it consists of a piston. In the anterior wall there is an aperture through which the gas escapes without back pressure with overcritical pressure gradient into the space.
The main difficulty in the calculation of the problem mentioned above consists in the calculation of the self-motion of the gas inside of receptacle. Here diffusions and mutual influences of different direct and reflected waves occur which are difficult to comprehend in formulas. In order to simplify the theory it is assumed that the most important parameters

Card 1/3

which determine the state of the gas inside of the receptacle, namely the pressure, the density and the absolute temperature locally change little inside of the receptacle, i.e. they ar functions of the time alone. Furthermore it is assumed that the diameter of the receptacle is large compared with the discharge opening. The calculation is based on the following equations:

1. The energy equation,
2. the discharge equations,
3. the equations of motion for the piston.

The combination of these equations leads to a non-linear differential equation of second order of the form:

$$(\Psi-\eta)\frac{d^2\Psi}{d\eta^2} + A_1\frac{d\Psi}{d\eta} + A_2\left(\frac{d\Psi}{d\eta}\right)^2 + A_0 + A(\Psi-\Psi_0) = 0$$

The solution of this equation is carried out for three different cases.

1. For the discharge of the gas out of a receptacle with constant volume,
2. for the case of stationary discharge of the gas out of the receptacle and

The Quasi-Stationary Discharge of a Gas out of a Cylindrical Receptacle With Variable Volume 40-22-2-20/21

3. for the case of discharge of the gas out of a receptacle with a movable piston.
An evaluation of the theoretically obtained results was not carried out or discussed.
There are 1 figure, and 6 references, 2 of which are Soviet.

SUBMITTED: December 4, 1956

1. Gas flow--Theory 2. Rocket motors--Theory

Card 3/3

S/179/62/000/006/015/022
E032/E114

AUTHOR: Belen'kiy, I.M. (Moscow)

TITLE: On a graphical method of constructing trajectories

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no.6, 1962, 131-133.

TEXT: A plane motion of a mass point in a conservative field was shown in the previous paper (Uch. zap. Mosk. zaochn. ped. in-ta. Ser. fiz.-mat., 1959, no.3) to be given by the solution of the following nonlinear differential equations:

$$y'' = (1 + y'^2)\left(-y'\frac{\partial \Phi}{\partial x} + \frac{\partial \Phi}{\partial y}\right) \qquad (y' = dy/dx) \qquad (1)$$

$$\Phi(x, y) = \log \sqrt{2(E - U(x, y))}, \qquad E = T + U \qquad (2)$$

where: E is the total energy, U is the potential energy, and the mass m = 1. In the present note a simple graphical method is described for constructing the trajectory of the mass point.

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The method is based on the hydromechanical analogy described elsewhere (I.M. Belen'kiy, DAN SSSR, v.140, no.6, 1961). According to this analogy the analytical function

$$W(z) = \varphi(x, y) + i\chi(x, y) \qquad (z = x + iy) \tag{3}$$

may be re-written in the form

$$W(z) = \log \zeta + \text{const} \qquad (\zeta = ve^{-i\psi}) \tag{4}$$

so that the potential plane $W(z)$ and the hodograph plane $\tau = \log v - i\psi$ are related by

$$\varphi(x, y) = \Phi(x, y) + C_1, \quad \chi(x, y) = -\psi(x, y) + C_2 \tag{5}$$

where C_1 and C_2 are constants and $\Phi(x, y) = \log v$ is defined in accordance with Eq.(2). It follows that the lines of equal velocity potential (φ = const) and the current lines χ = const in the W plane will correspond to the lines Φ = const and ψ = const in the τ plane. By constructing a grid of φ = const and χ = const lines on the $z = x + iy$ plane on which the motion of the mass points is considered at the same time,

BELEN'KIY, I.M. (Moskva)

One application of Hilbert's independence theorem. Prikl. mat. i mekh. 27 no.5:887-889 S-O '63. (MIRA 16:10)

BELEN'KIY, Il'ya Markovich; KLYKOV, V.M., red.; SAVEL'YEVA, Z.A., tekhred.

[Payments to collective and state farms for grain and seeds received] Raschety s kolkhozami i sovkhozami za priniatye zerno i semena. Moskva, Izd-vo tekhn.i ekon.lit-ry po voprosam mukomol'no-krupianoi i kombikormovoi promyshl. i elevatorno-skladskogo khoz., 1959. 118 p. (MIRA 13:2)
(Grain trade)

BELEN'KIY, I.M.

Some problems in the mechanics of vibration mills. Uch.zap. MGZPI no.3:209-230 '59. (MIRA 13:5)
(Milling machinery)

S/020/61/140/006/008/030
B104/B102

AUTHOR: Belen'kiy, I. M.

TITLE: A new analogy in mechanics

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 6, 1961, 1278 - 1280

TEXT: The author proves the well-known analogy between the plane problem of a potential flow in hydromechanics and the plane trajectory problem in classical mechanics in conservative fields. He shows that it is possible to proceed from a plane trajectory problem in classical mechanics to a plane problem of hydromechanics if $\Phi(x,y) = \ln(v)$ holds for the velocity v of a point, where $\Phi(x,y)$ is harmonic. By analogy between optics and mechanics a relation between problems of geometrical optics and plane problems of hydromechanics is established: $\Phi(x,y) = \ln(n(x,y))$, where $n(x,y)$ is the refractive index of a medium. A similar relation is established between optics and electron optics: $n = c\sqrt{\varphi_1}$, where n is the refractive index of a medium, and φ_1 is the potential of an electric

Card 1/2

S/020/61/140/006/008/030
B104/B102

A new analogy in mechanics

field. There are 4 Soviet references.

PRESENTED: May 25, 1961, by L. I. Sedov, Academician

SUBMITTED: May 24, 1961

Card 2/2

BELEN'KIY, Il'ya Markovich; YAKOVLEVA, B.M., red.; D'YACHENKO, V.M., red.; GOLUBKOVA, L.A., tekhn. red.

[Settling the accounts with collective and state farms for the receipt of grain and seeds] Raschety s kolkhozami i sovkhozami za priniatye zerno i semena. Pod red. B.M.IAkovleva. Izd.4., dop. i perer. Moskva, Zagotizdat. 1962. 114 p. (MIRA 15:7)

(Grain trade--Accounting)
(Seed industry--Accounting)

BELEN'KIY, I.M.

Differential equations of trajectories of a point in a space potential force field. Uch. zap. MGZPI no.9:3-10 '62. (MIRA 16:6)

(Trajectories)
(Differential equations)

BELEN'KIY, Il'ya Markovich; RUBASHOV, A.N., red.

[Introduction to analytic mechanics] Vvedenie v analiticheskuiu mekhaniku. Moskva, Vysshaia shkola, 1964. 322 p. (MIRA 17:10)

L 10692-66 EWT(d)/EWT(l)/EWP(m)/T IJP(c)

ACC NR: AP6000548 SOURCE CODE: UR/0040/65/029/006/1098/1100

41,55

AUTHOR: Belen'kiy, I. M. (Moscow)

45
B

ORG: none

TITLE: Generalization of the Whittaker formula for periodic orbits in the case of fields with an arbitrary law of gravitation

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 6, 1965, 1098-1100

TOPIC TAGS: periodic solution, gravitation effect

16,44,55

ABSTRACT: The Whittaker formula for plane periodic orbits described the motion of a mass point in a field of several gravitational centers is generalized to more general force fields where the gravitational force is a certain function of the distance or to force fields where the gravitational force is inversely proportional to the n-th power of the distance. A unit mass point M(x, y) is taken which moves in a plane force field generated by s gravitational centers with potentials

21,44,55

$$V_j = -A_j / r_j^n \qquad (A_j > 0) \tag{1}$$

located at points O_j (j = 1, 2, ..., s) and describes a closed periodical orbit.

Card 1/2

L 10692-66

ACC NR: AP6000548

The following generalized Whittaker's formula is

$$\frac{1}{2\pi}\iint_{(\sigma)}\left(\frac{\partial^2}{\partial x^2}+\frac{\partial^2}{\partial y^2}\right)\ln\left(h-V(x,y)\right)dx\,dy = kn-2, \tag{2}$$

where h is an energy constant and k is the number of gravitational centers inside the orbit. It is noted that this formula is also correct when n is a fractional number. It is shown that formula (2) retains its form when the gravitational potential is of the form

$$V_j = \frac{A_j}{r_j}\left(1+\sum_{m=1}^{n-1}\frac{A_{jm}}{r_j^m}\right). \tag{3}$$

For fields generated by sources with logarithmic potentials $V_j = A_j \ln r_j$, an integral of form (2) is obtained whose right-hand side is equal to -2, that is, the Whittaker integral has a constant value, thus does not depend on the number of gravitational centers located inside the closed trajectory. Orig. art. has: 1 figure and 14 formulas. [LK]

SUB CODE: 12,20 SUBM DATE: 25Jun65/ ORIG REF: 005/ OTH REF: 002/

ATD PRESS: 4167

HW

BELEN'KIY, I.N.

In the council of experts of the All-Union Agricultural Exhibition.
Zhivotnovodstvo 20 no. 10:72-74 O '58. (MIRA 11:10)

1. Sekretar' Soveta ekspertov po zhivotnovodstvu Vsesoyuznoy sel'skokhozyaystvennoy vystavki.
(Moscow--Livestock exhibitions)

MODESTOVA, Tat'yana Alekseyevna; VIKHROV, Pavel Georgiyevich; SHELIKHOV, Nikolay Nikolayevich; BELEN'KIY, I.S., retsenzent; PLENYANNIKOV, M.N., red.; VINOGRADOVA, G.A., tekhn. red.

[Commercial study of materials used in clothing manufacture] Materialovedenie shveinogo proizvodstva. Izd.4., ispr. i dop. Moskva, Gizlegprom, 1963. 278 p. (MIRA 16:8)
(Textile fabrics)
(Clothing industry--Equipment and supplies)

BELEN'KIY, I. YA

"The Treatment of Chronic Sores on the Legs with Lasting-Pressure Bandages." Sub 22 Apr 47, Central Inst for the Advanced Training of Physicians

Dissertations presented for degrees in science and engineering in Moscow in 1947

SO: Sum No. 457, 18 Apr 55

BELEN'KIY, I. Ya.

24396 BELEN'KIY, I. Ya. K voprosu o patogeneze i lechenii khronicheskikh yazv nizhnikh konechnostey (Iz kand. Dissertatsii). Trudy Glav. voyen Gospitalya Vooruzh. Sil SSSR im. Akad. Burdenko. VIP. 6. M., 1949, S. 322-26. - Bibliogr: 9 nazv.

SO: Letopis, No. 32, 1949.

BELEN'KIY, K.B.

BELEN'KYI, K.B. [Bielien'kyi, K.B.]

Ahead of time! Mekh. sil'. hosp. 12 no. 2:4-5 F '61. (MIRA 14:4)

1. Direktor Frunzenskoy remontno-tekhnicheskoy stantsii.
(Kherson Province--Repair and supply stations)

VURGAFT, M.B., kand.med.nauk; BELEN'KIY, K.R.

Accuracy of the elastotonometric method for determining the amount of change in the volume of contents of the eyeball. Oft.zhur. 16 no.6:359-364 '61. (MIRA 14:10)

1. Iz Bashkirskogo nauchno-issledovatel'skogo trakhomatoznogo institute (dir. - M.S. Tanatarova).
(TONOMETERS) (INTRAOCULAR PRESSURE)

BELEN'KIY, L.I.

Effect of the stimulation of andrenergic structures of the reticular formation on the course of interoceptive metabolic reflexes. Izv. AN AZerb. SSR. Ser. biol. i med. nauk no.2:105-112 '62. (MIRA 17:6)

BELEN'KIY, L.I., prof., doktor tekhn. nauk, red.; OVECHKIS, N.S., dots., kand. tekhn. nauk, red.; BOLDENKO, A.R., red.

[Use of the science of colors in the textile industry] Primenenie tsvetovedeniia v tekstil'noi promyshlennosti; sbornik statei. Moskva, Izd-vo "Legkaia industriia," 1964. 226 p. (MIRA 17:5)

PARINI, Vladimir Pavlovich; KAZAKOVA, Zoya Semenovna; BELEN'KIY, L.l., doktor tekhn. nauk, otv. red.

[Chemical palette] Palitra khimii. Moskva, Izd-vo "Nauka," 1964. 126 p. (MIRA 17:7)

BELEN'KIY, L.I., doktor tekhn. nauk, prof.; ANDREYEVA, L.G., aspirant

Determining the concentration of dispersion dyes in binary mixtures. Tekst. prom. 24 no.2:66-71 F '64. (MIRA 17:3)

1. Vsesoyuznyy zaochnyy institut tekstil'noy i legkoy promyshlennosti (VZITLP).

ANDREYEVA, L.G.; BELEN'KIY, L.I.

Effect of the components on the mutual exhaustion of disperse dyes in the dyeing of acetate silk with binary mixtures. Izv. vyss. ucheb. zav.; tekh. teks. prom. no.3:109-117 '64. (MIRA 17:10)

1. Vsesoyuznyy zaochnyy institut tekstil'noy i legkoy promyshlennosti.

BELEN'KIY, L. I.

PHASE I BOOK EXPLOITATION SOV/5410

Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Tashkent, 1959.

Trudy (Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. 449 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Abduragulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences; V. N. Ivashev; G. S. Ikramova; A. Ye. Kiva Ye. M. Iobanov, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Nishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

Card 1/20

Transactions of the Tashkent (Cont.) SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

RADIOACTIVE ISOTOPES AND NUCLEAR RADIATION IN ENGINEERING AND GEOLOGY

BELEN'KIY, L.I.

Effect of aminazine on the formation of interoceptive exchange reflexes from the stomach; preliminary communication. Trudy Sekt. fiziol. AN Azerb. SSR 4:103-110 '60. (MIRA 15:1)
(CHLORPROMAZINE) (BLOOD SUGAR)
(STOMACH--INNERVATION)

BELEN'KIY, L.I.

Importance of the reticular formation of the brain stem in interoceptive metabolic reflexes. Vop.fiziol. 5:130-138 '62. (MIRA 16:5)

(BRAIN) (CARBOHYDRATE METABOLISM)

BELEN'KIY, L.I.

Effect of electric stimulation of reticular structures of the brainstem on the course of interoceptive metabolic reflexes. Vop. fiziol. 6:23-29 '63.

(MIRA 17:11)

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5.3100

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S/074/60/029/04/02/005
B008/B014

AUTHORS: Gol'dfarb, Ya.L., Belen'kiy, L.I.

TITLE: Stress and Reactivity of Monocyclic Systems

PERIODICAL: Uspekhi khimii, 1960, Vol. 29, No. 4, pp. 470-507

TEXT: This is a survey of the most interesting papers published in recent years on stress theory. First, the authors give a brief summary of the development of the basic assumptions of this theory in the forties (Refs. 4-18). Details of the development of the stress theory are contained in Refs. 1-3. On the basis of the latest results (Refs. 19-30) it may be assumed that cyclic systems exhibit also the so-called conformation stress in addition to the classical angular or Baeyer stress. In an actually existing molecule the two stresses are usually present at the same time and are interdependent. With the help of physical and chemical methods it is only possible to determine the total stress of the cyclic system. It is merely an assumption that the Baeyer angular stress predominates in smaller rings and the conformation stress in five-membered and medium rings. It is frequently possible to determine the stress by studying several

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Stress and Reactivity of Monocyclic Systems

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physical properties. The stress becomes particularly manifest in exact measurements of the combustion heat (Table 1: combustion heat of cycloparaffins). The physical properties of the following cyclic systems are discussed: cyclopentane and cyclohexane (Refs. 29, 41-51, Fig. 2); cis-cycloolefins (Refs. 47, 54-57, Table 2); cyclobutane (Refs. 58, 59); cyclopropane (Refs. 60-67). The data obtained for cycloalkanes are applicable to the simplest heterocyclic compounds. The stress of a heterocyclic compound having oxygen or sulfur in its ring is, however, always lower than that of a cycloalkane with an equally large ring (Refs. 34, 68-72, Table 3). The combustion heats of the simplest oxygen-containing heterocycles are given in table 4 and need no explanation (Refs. 73, 74). Microwave- (Ref. 75) and oscillation spectra (Ref. 76) indicate that the trimethyl oxide has a plane structure. Concerning the combustion heats of nitrogen-containing heterocycles there are data available only on ethylenimine (Ref. 77), piperidine (Ref. 78), and pyrrolidine (Ref. 189). The conformation stress manifests itself in cyclic compounds with conjugate double bonds in a very peculiar manner (Fig. 3). The absence of coplanarity raises the energy content and reduces and even eliminates the properties of a conjugate system (Refs. 28, 79-85). When discussing various types of stress and the influence exerted by stresses on the reactivity of cyclic compounds, the authors make use

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Stress and Reactivity of Monocyclic Systems

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of Brown's concept of the F- and B-stresses (Refs. 86-89) as well as of the I-stress (Refs. 93,94)(Table 5). Numerous examples show that the ratio of the reaction rates of various rings follows the theory of I-stresses. This holds not only for the addition to carbonyl groups and according to S_N1, but also for radical reactions and reactions of the type S_N2. It may be assumed that the reaction rate is differently influenced by the size of the ring, depending on the type of reaction (Table 6). Next, some examples are given which demonstrate the effect of I-stress on the reaction rate (Refs. 95-136, Tables 7-15, Figs. 4 and 5). As the I-atress is only one of the factors influencing the relative reaction rate of cyclic compounds, it is also necessary to take account of steric and polar factors (Tables 16 and 17). The authors give several examples which contradict the theory of I-stress (Tables 18-20). The last part of the present article deals with the formation and opening of rings and with the relationship between these processes and stress (Refs. 8,28,132, 177-185). The tendency toward ring closure is a complicated function of the following functions: distance between the reacting groups and the entropy loss which is connected with the fixation of the ring; Baeyer- and Pitzer stress as well as the compression of the van der Waals radii. Two reactions compete with each

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Stress and Reactivity of Monocyclic Systems S/074/60/029/04/02/005
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other in the cyclization: the intramolecular - ring closure - and the intermolecular - polycondensation or polymerization. As the height of the activation barrier of any chemical reaction is determined by the change in the so-called thermodynamic activation potential, it is possible to speak of enthalpy- and entropy barriers. The synthesis of larger, unstressed rings (13 and more members) is predominated by the entropy barrier, whereas the enthalpy barrier predominates in the case of smaller, stressed rings. Though there is no relation between the stress and the formation rate of rings, the latter are usually closed more easily if unstressed rings are formed, or if the chain has an adequate shape. The development of an adequate chain shape depends on the reaction mechanism. Ring closure is promoted by the existence of substituents (Table 21). Some thermodynamic and kinetic problems of the polymerization of cyclic compounds were dealt with in the paper mentioned in Ref. 155 (Fig. 6). It should be emphasized that the fact that this process is possible from the thermodynamic point of view does not warrant its practical realizibility. The polymerization of numerous heterocyclic compounds may be regarded as an equilibrium process. The character of the products obtained depends on the conditions of reaction. Though many examples seem to prove a parallelism between the stress of rings and their polymerizability, such a relationship does not always exist. Thus, it is

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Stress and Reactivity of Monocyclic Systems

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not possible to determine the state of stress of a cyclic compound from its polymerizability. The following Soviet authors are mentioned in this article: N.A. Domnin, P.V. Zubov, M.Ye. Dyatkina, Ya.K. Syrkin, G.G. Gustavson, A.Ye. Chichibabin, V.V. Markovnikov, N.Ya. Demyanov, and N.A. Menshutkin. There are 6 figures, 21 tables, and 190 references, 36 of which are Soviet.

ASSOCIATION: In-t organicheskoy khimii im. N.D. Zelinskogo (Institute of Organic Chemistry imeni N.D. Zelinskiy)

Card 5/5

BELEN'KIY, L.I.; TAYTS, S.Z.; GOL'DFARB, Ya.L.

New method of synthesizing macrocyclic ketones having a musk odor. Dokl. AN SSSR 139 no.6:1356-1358 Ag '61.
(MIRA 14:8)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Predstavleno akademikom A.A. Balandinym.
(Ketone)

BELEN'KIY, L.I.; TAYTS, S.Z.; GOL'DFARB, Ya.L.

Synthesis of ω-thienylalkanoic acids from ω-chloroalkanoic acids. Izv. AN SSSR. Otd.khim.nauk no.9:1706-1708 S '61. (MIRA 14:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Acids, Fatty)

BELEN'KIY, L.I.; LOPATIN, B.G.

Transformations of aluminum chloride etherate in acylation reactions. Izv.AN SSSR Otd.khim.nauk no.5:934-937 My '63. (MIRA 16:8)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Aluminum chloride) (Acylation)

TAYTS, S.Z.; BELEN'KIY, L.I.; GOL'DFARB, Ya.L.

New method of synthesizing macrocyclic compounds. Report No.5: Effect of the phase composition of a reaction mixture on the process of intramolecular acylation of 10-(2-thienyl)capric acid chloride. Izv.AN SSSR.Ser.khim. no.8:1460-1469 Ag '63. (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Decanoic acid) (Acylation) (Cyclic compounds)

GOL'DFARB, Ya.L.; TAYTS, S.Z.; CHIRKOVA, T.S.; BELEN'KIY, L.I.

New method of synthesizing macrocyclic compounds. Report No.6: Some transformations of [10]- α-cyclo-1-thienone. Izv. AN SSSR Ser. khim. no.11:2055-2060 N '64 (MIRA 18:1)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

BELEN'KIY, L.I.

Modern methods of synthesizing macrocyclic compounds. Usp. khim. 33 no.11:1265-1303 N '64. (MIRA 17:12)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

GOL'DFARB, Ya.L.; YAKUBOV, A.P.; BELEN'KIY, L.I.

Formylation of some sulfides of the [illegible]ran series. Izv. AN SSSR. Ser. khim. no.7:1281-1283 '65. (MIRA 18:7)

1. Institut organicheskiy khimii im. N.D.Zel[illegible]kogo AN SSSR.

L 04180-67 EWT(m)/EWP(j) JW/RM

ACC NR: AP6029226 SOURCE CODE: UR/0195/66/007/003/0540/0542

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AUTHOR: Trofimov, V. I.; Belen'kiy, L. I.; Buben, N. Ya.; Chkheidze, I. I.

ORG: Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR)

TITLE: Free radical formation during radiolysis of organic compounds in the solid state. IV. Radiative free radical yields in certain sulfur-containing compounds

SOURCE: Kinetika i kataliz, v. 7, no. 3, 1966, 540-542

TOPIC TAGS: free radical, radiation chemistry, EPR spectrum, radiation effect

ABSTRACT: Radiative free radical yields (G_R) for hexylmercaptan, dihexyldisulfide, thiophenol, and thiophene and its derivatives were determined by EPR technique. The EPR spectra of the various samples irradiated with electrons having an energy of 1.6 Mev at -115°C to -190°C were taken directly using an EPR-2-IKhF device. The radiative free radical yields were determined from the initial linear portion of the free radical build-up curve. The accuracy of the free radical yields determination was 40%. The radiative free radical yields were found to be equal to 0.4 for hexylmercaptane and dihexyldisulfide, 0.2 for thiophenol, 0.18 for thiophene, and 0.03 for 2-chloro- and 3-bromothiophene. This indicates that the presence of -S-H and -S-S- groups results in great radiation resistance. (For comparison, the radiative free radical yields re-

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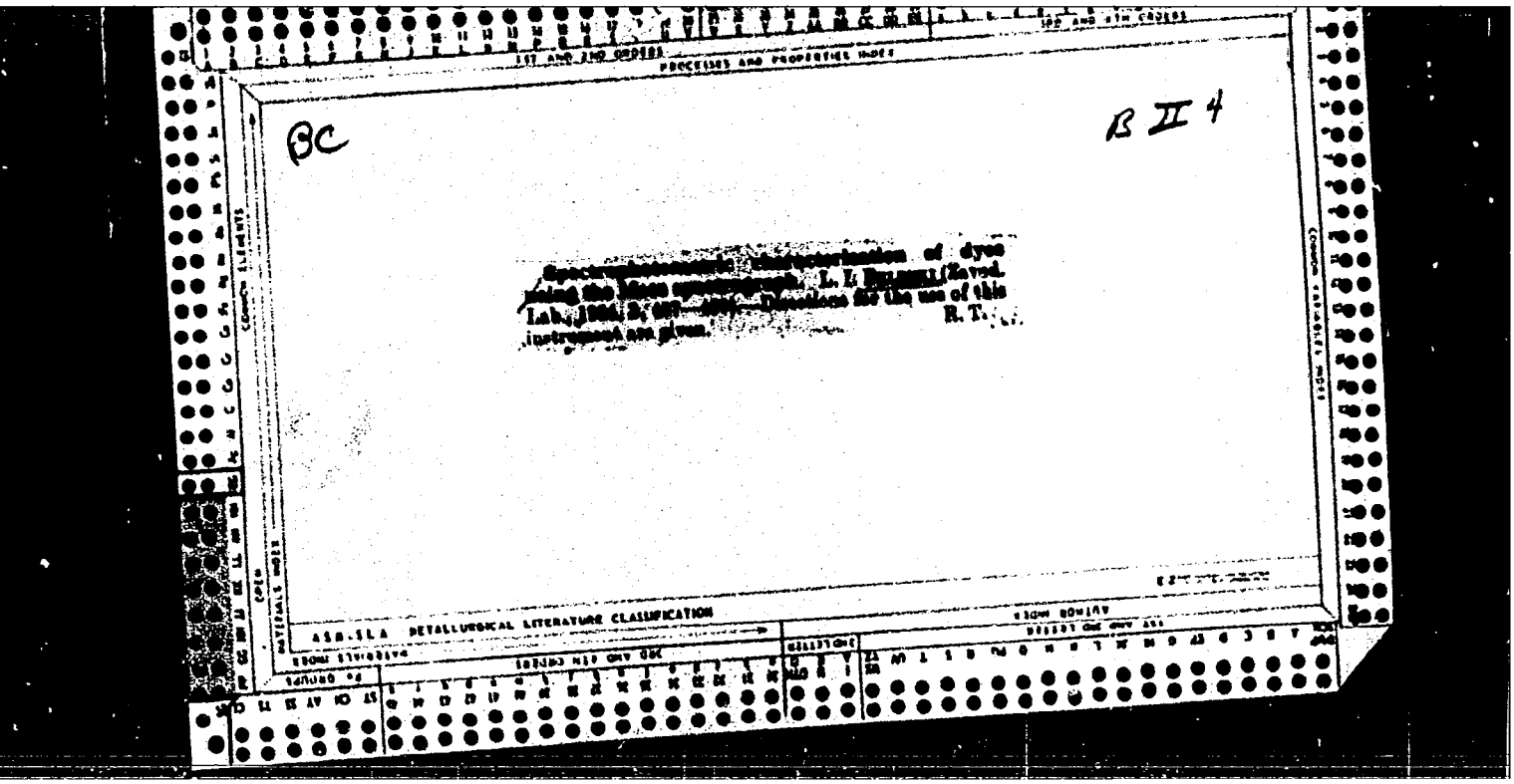
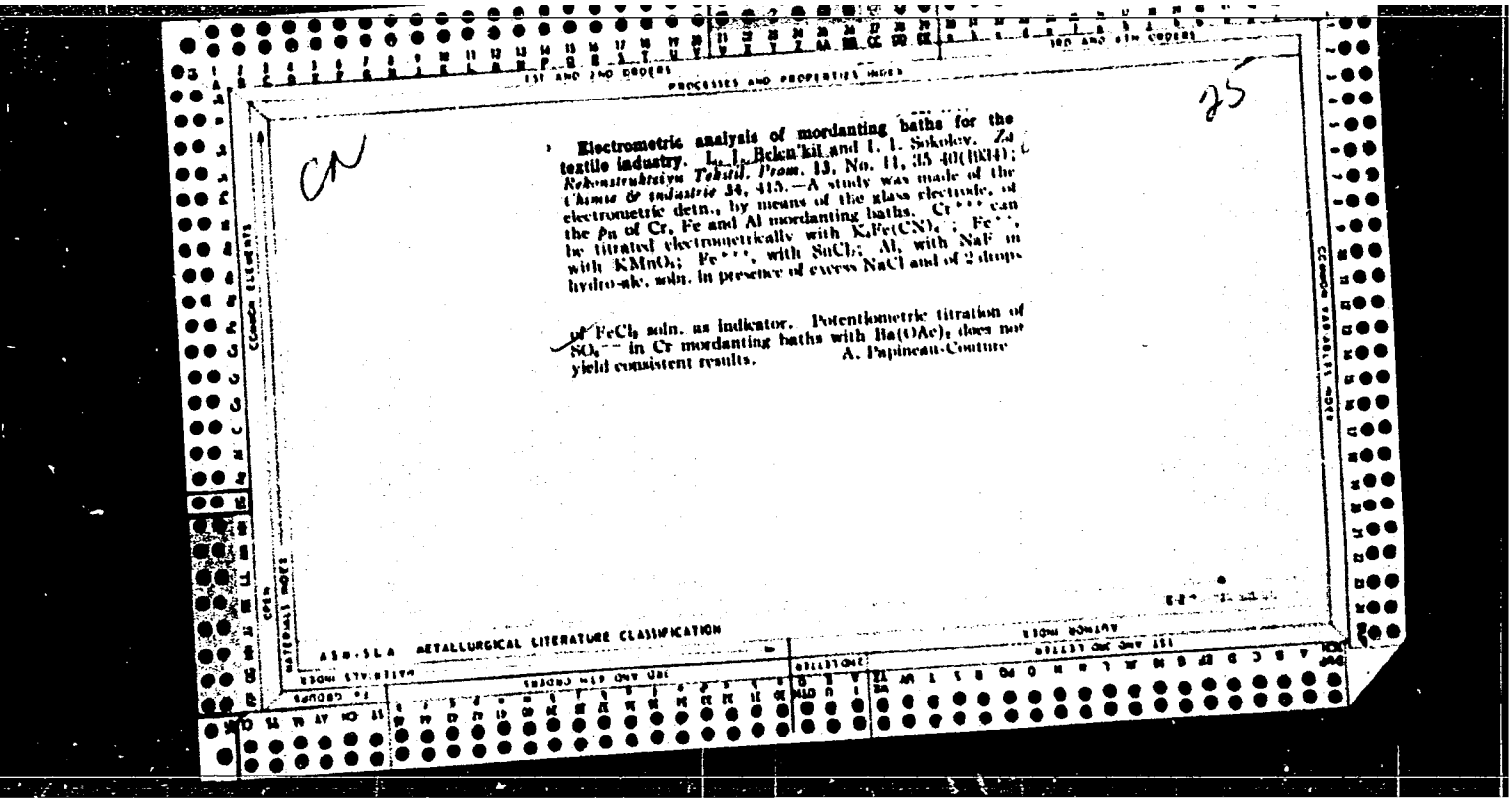
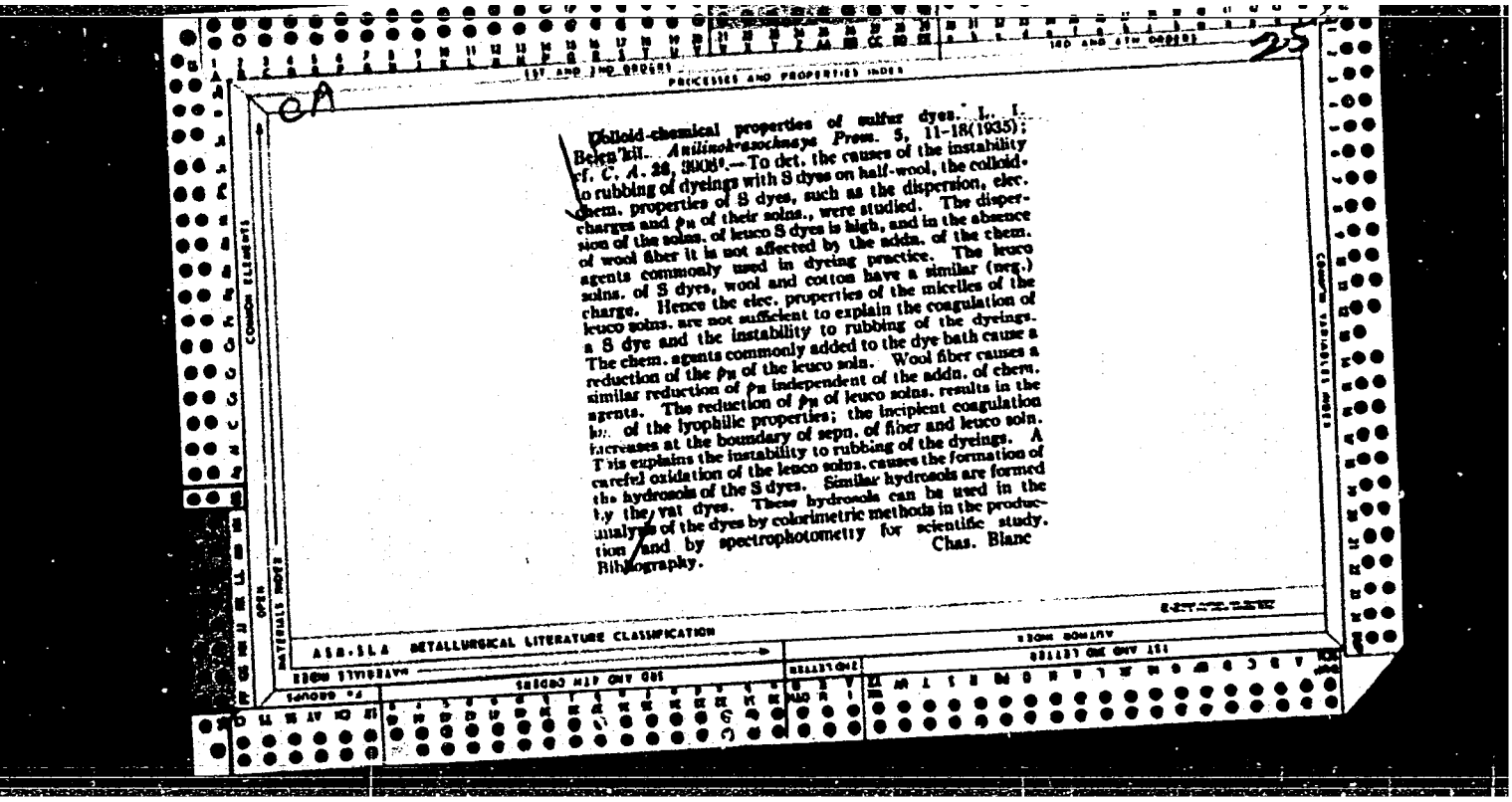
ported in the literature for saturated hydrocarbons and alcohols are 4-5 and 5-8, respectively). The authors thank E. M. Nanobashvili for supplying certain samples and discussion of the results and M. V. Panchvidze for assistance in carrying out the experiments. Orig. art. has: 2 figures, 1 table.

SUB CODE: 07/ SUBM DATE: 13May65/ ORIG REF: 012/ OTH REF: 003



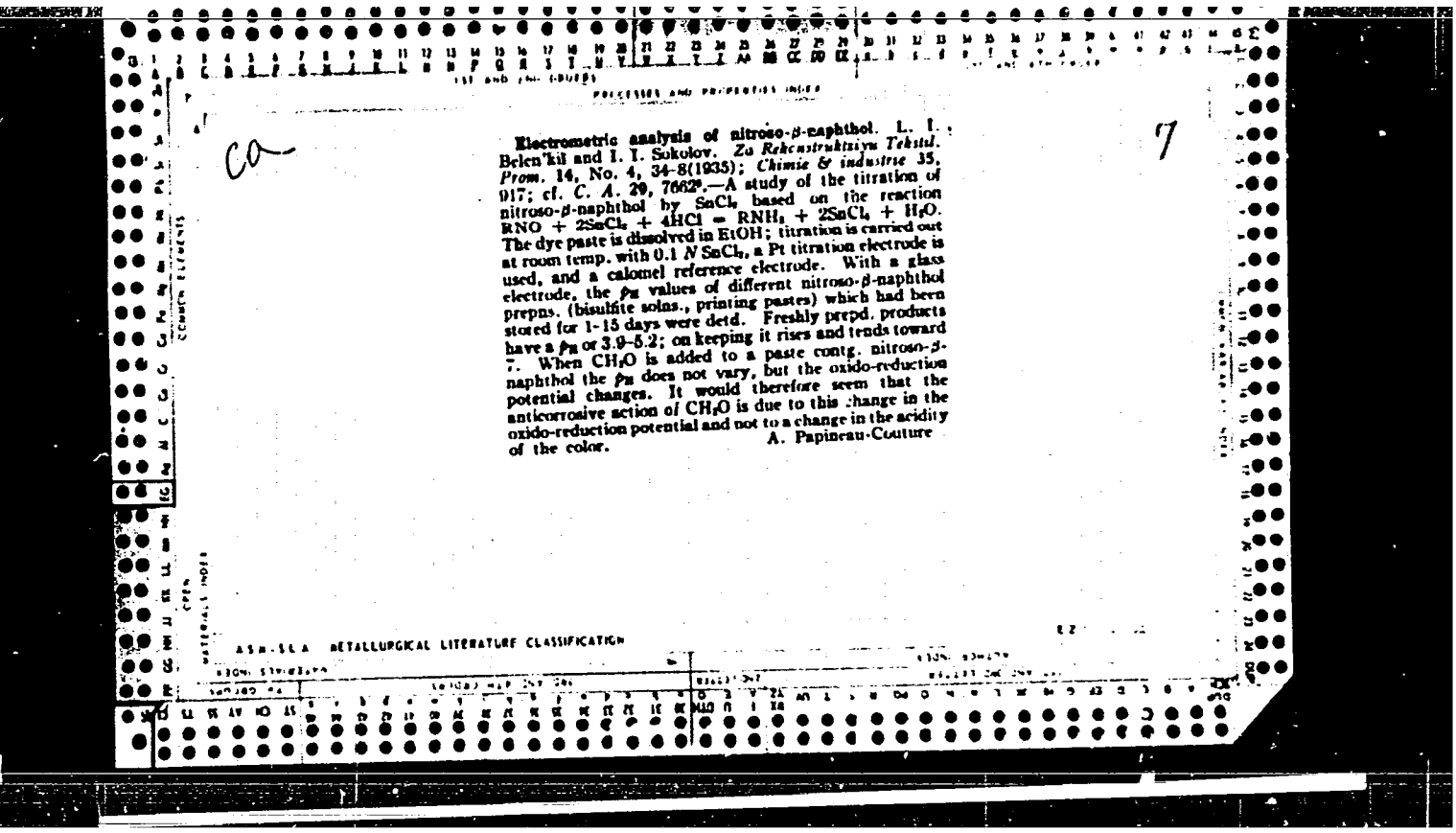


Electrometric analysis of mordanting baths for the textile industry. L. I. Bekn'kil and I. I. Sokolov. *Za Rekonstruktsiyu Tekstil. Prom.* 13, No. 11, 35-40(1934); *Chimie & industrie* 34, 415.—A study was made of the electrometric detn., by means of the glass electrode, of the *p*H of Cr, Fe and Al mordanting baths. Cr^{+++} can be titrated electrometrically with $K_4Fe(CN)_6$; Fe^{++}, with $KMnO_4$; Fe^{+++}, with $SnCl_2$; Al, with NaF in hydro-alc. soln. in presence of excess NaCl and of 2 drops $FeCl_3$ soln. as indicator. Potentiometric titration of SO_4^{--} in Cr mordanting baths with $Ba(OAc)_2$ does not yield consistent results. A. Papineau-Couture



Colloid-chemical properties of sulfur dyes. I. I. Belen'kii. *Anilinokrasochnaya Prom.* 5, 11-18(1935); cf. *C. A.* 28, 3008⁹.—To det. the causes of the instability to rubbing of dyeings with S dyes on half-wool, the colloid-chem. properties of S dyes, such as the dispersion, elec. charges and p_H of their solns., were studied. The dispersion of the solns. of leuco S dyes is high, and in the absence of wool fiber it is not affected by the addn. of the chem. agents commonly used in dyeing practice. The leuco solns. of S dyes, wool and cotton have a similar (neg.) charge. Hence the elec. properties of the micelles of the leuco solns. are not sufficient to explain the coagulation of a S dye and the instability to rubbing of the dyeings. The chem. agents commonly added to the dye bath cause a reduction of the p_H of the leuco soln. Wool fiber causes a similar reduction of p_H independent of the addn. of chem. agents. The reduction of p_H of leuco solns. results in the loss of the lyophilic properties; the incipient coagulation increases at the boundary of sepn. of fiber and leuco soln. This explains the instability to rubbing of the dyeings. A careful oxidation of the leuco solns. causes the formation of the hydrosols of the S dyes. Similar hydrosols are formed by the vat dyes. These hydrosols can be used in the analysis of the dyes by colorimetric methods in the production and by spectrophotometry for scientific study. Bibliography.

Chas. Blanc



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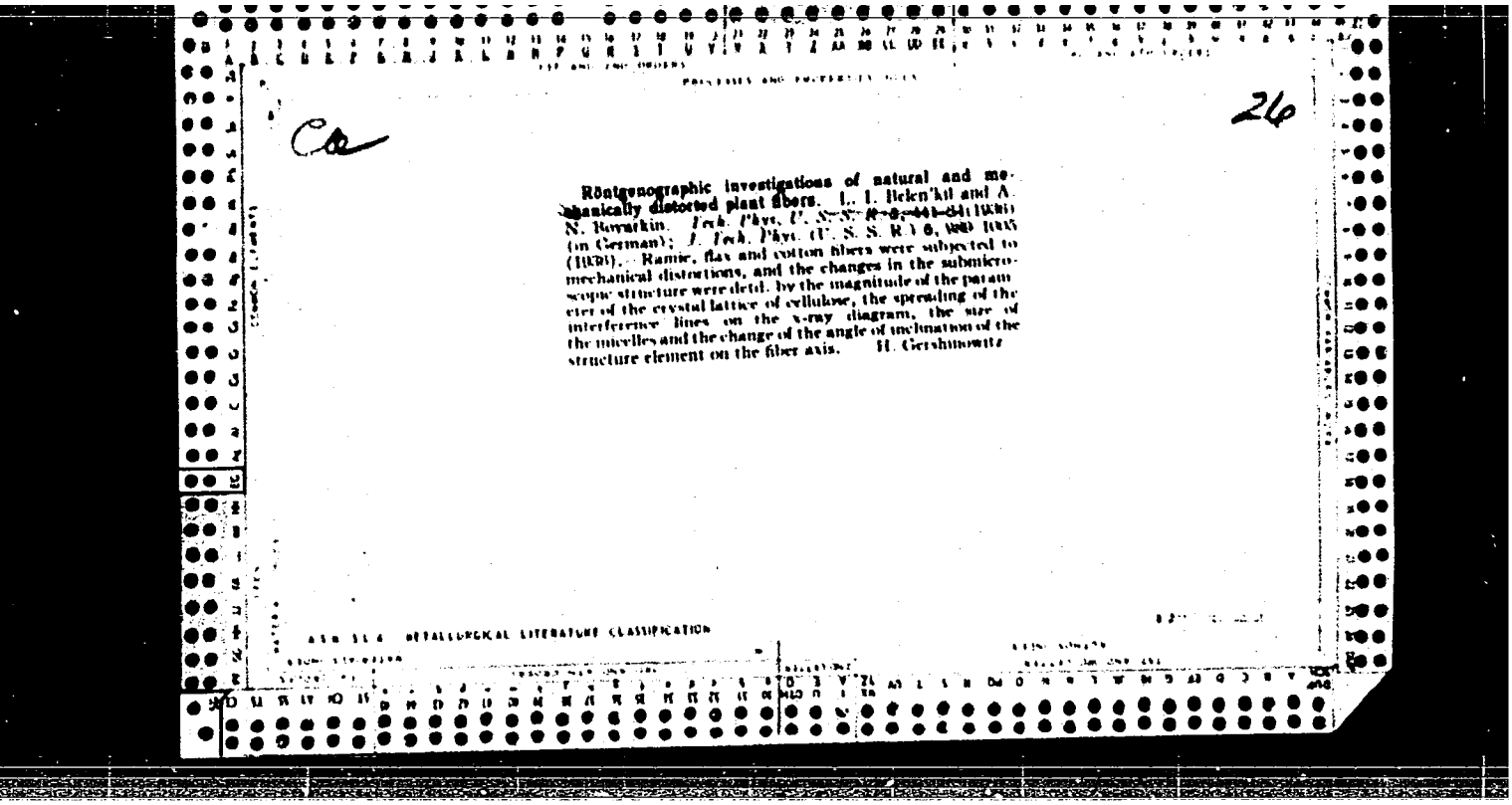
Electrometric analysis of nitroso-β-naphthol. L. I. Belen'kii and I. I. Sokolov. *Za Rekonstruktsiyu Tekstil. Prom.* 14, No. 4, 34-8(1935); *Chimie & industrie* 35, 917; cf. *C. A.* 29, 7662⁹.—A study of the titration of nitroso-β-naphthol by $SnCl_2$ based on the reaction $RNO + 2SnCl_2 + 4HCl = RNH_2 + 2SnCl_4 + H_2O$. The dye paste is dissolved in EtOH; titration is carried out at room temp. with 0.1 *N* $SnCl_2$, a Pt titration electrode is used, and a calomel reference electrode. With a glass electrode, the p_H values of different nitroso-β-naphthol prepns. (bisulfite solns., printing pastes) which had been stored for 1-15 days were detd. Freshly prepd. products have a p_H of 3.9-5.2; on keeping it rises and tends toward 7. When CH_2O is added to a paste contg. nitroso-β-naphthol the p_H does not vary, but the oxido-reduction potential changes. It would therefore seem that the anticorrosive action of CH_2O is due to this change in the oxido-reduction potential and not to a change in the acidity of the color.

A. Papineau-Couture



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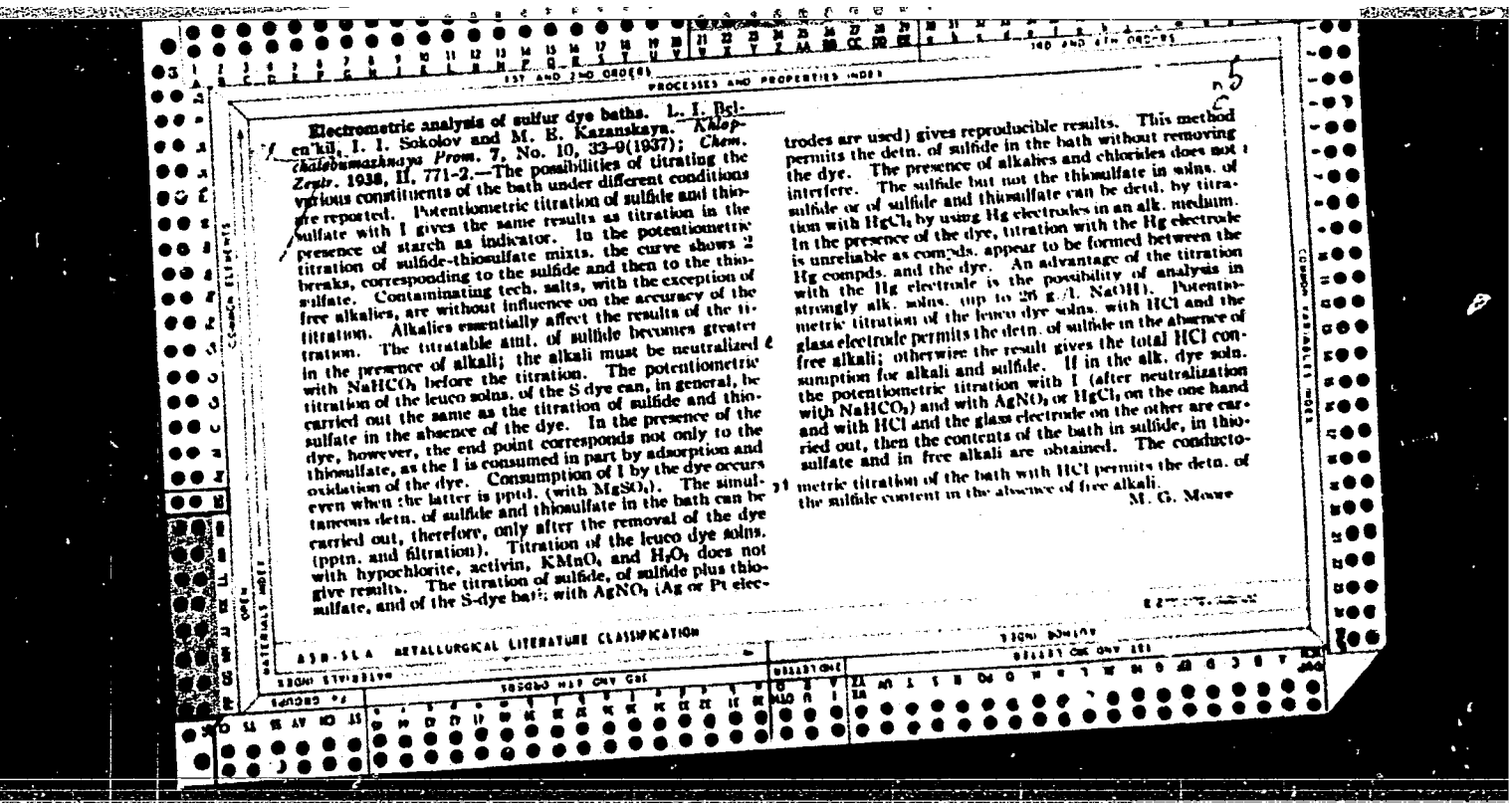
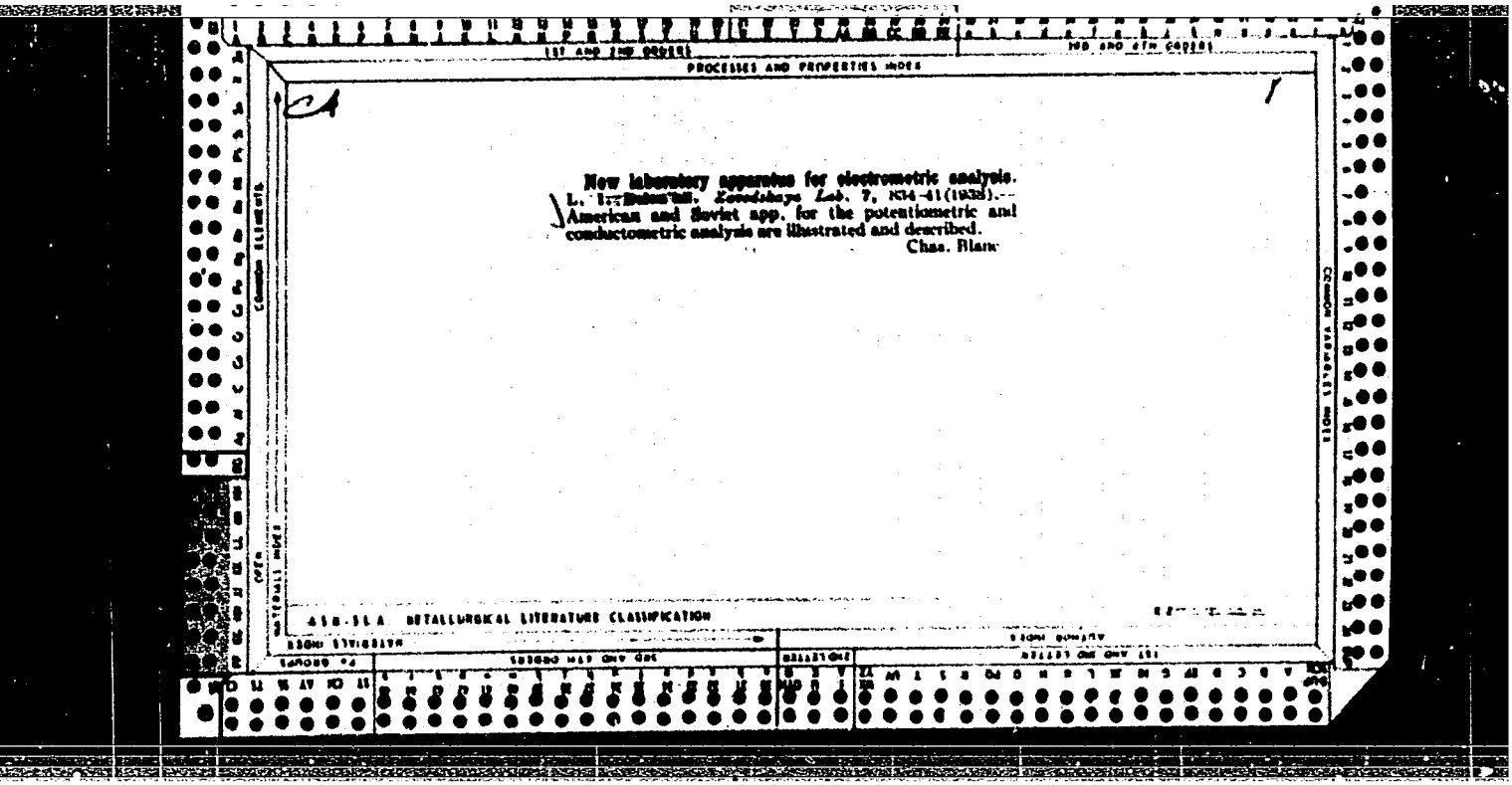
Röntgenographic investigations of natural and mechanically distorted plant fibers. L. I. Belen'kii and A. N. Berrakin. *Tech. Phys.* (U. S. S. R.) 6, 441–54 (1939) (in German); *J. Tech. Phys.* (U. S. S. R.) 6, 489–[illegible] (1939).—Ramie, flax and cotton fibers were subjected to mechanical distortions, and the changes in the submicroscopic structure were detd. by the magnitude of the parameter of the crystal lattice of cellulose, the spreading of the interference lines on the x-ray diagram, the size of the micelles and the change of the angle of inclination of the structure element on the fiber axis. H. Gershinowitz

A 5 6 METALLURGICAL LITERATURE CLASSIFICATION

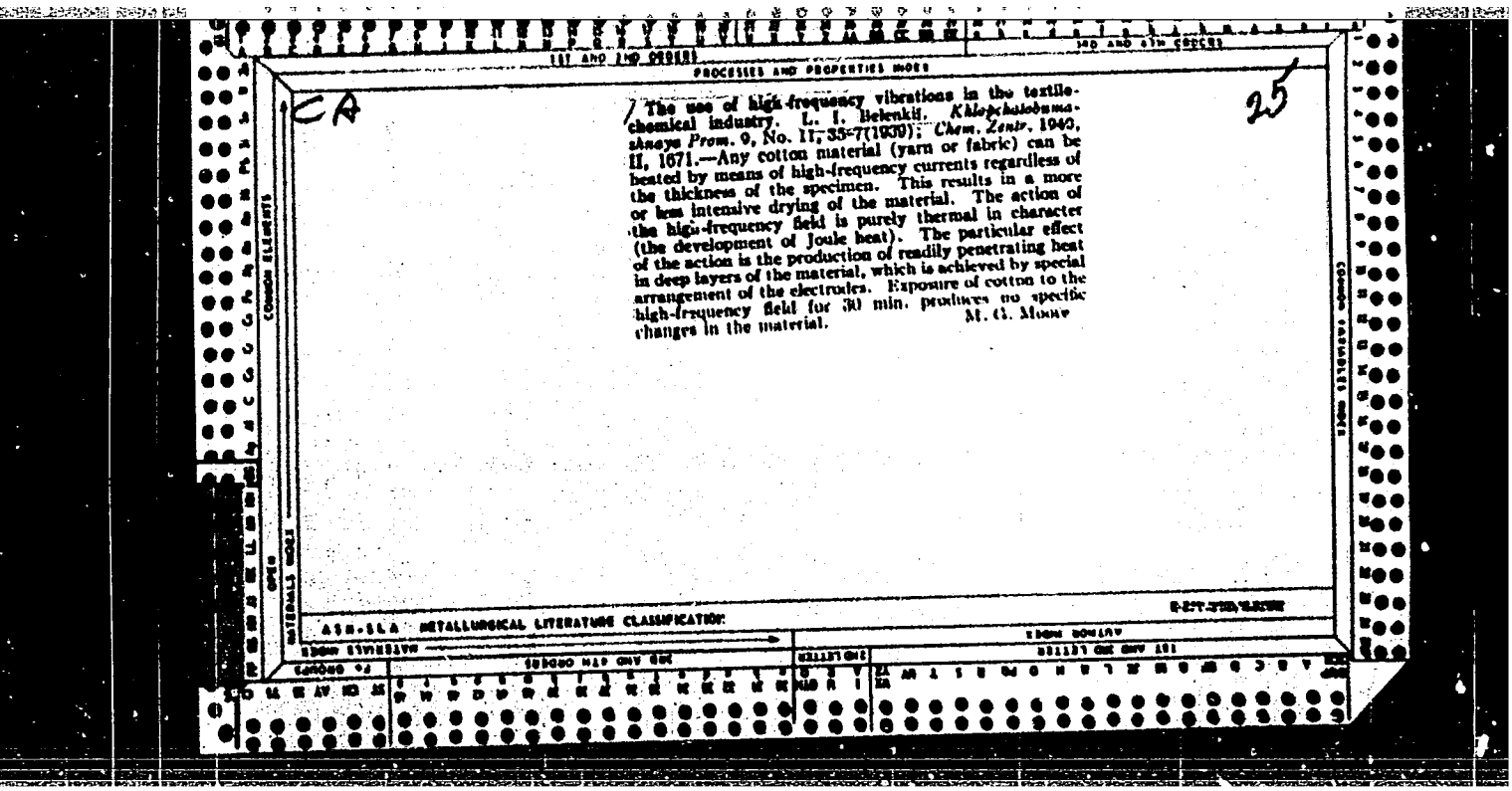


Electrometric analysis of sulfur dye baths. L. I. Bel'chenko'kil, I. I. Sokolov and M. E. Kazanskaya. *Khlopchatobumazhnaya Prom.* 7, No. 10, 33-9(1937); *Chem. Zentr.* 1938, II, 771-2.—The possibilities of titrating the various constituents of the bath under different conditions are reported. Potentiometric titration of sulfide and thiosulfate with I gives the same results as titration in the presence of starch as indicator. In the potentiometric titration of sulfide-thiosulfate mixts. the curve shows 2 breaks, corresponding to the sulfide and then to the thiosulfate. Contaminating tech. salts, with the exception of free alkalies, are without influence on the accuracy of the titration. Alkalies essentially affect the results of the titration. The titratable amt. of sulfide becomes greater in the presence of alkali; the alkali must be neutralized with $NaHCO_3$ before the titration. The potentiometric titration of the leuco solns. of the S dye can, in general, be carried out the same as the titration of sulfide and thiosulfate in the absence of the dye. In the presence of the dye, however, the end point corresponds not only to the thiosulfate, as the I is consumed in part by adsorption and oxidation of the dye. Consumption of I by the dye occurs even when the latter is pptd. (with $MgSO_4$). The simultaneous detn. of sulfide and thiosulfate in the bath can be carried out, therefore, only after the removal of the dye (pptn. and filtration). Titration of the leuco dye solns. with hypochlorite, activin, $KMnO_4$ and H_2O_2 does not give results. The titration of sulfide, of sulfide plus thiosulfate, and of the S-dye bath with $AgNO_3$ (Ag or Pt electrodes are used) gives reproducible results. This method permits the detn. of sulfide in the bath without removing the dye. The presence of alkalies and chlorides does not interfere. The sulfide but not the thiosulfate in solns. of sulfide or of sulfide and thiosulfate can be detd. by titration with $HgCl_2$ by using Hg electrodes in an alk. medium. In the presence of the dye, titration with the Hg electrode is unreliable as compds. appear to be formed between the Hg compds. and the dye. An advantage of the titration with the Hg electrode is the possibility of analysis in strongly alk. solns. (up to 26 g./l. NaOH). Potentiometric titration of the leuco dye solns. with HCl and the glass electrode permits the detn. of sulfide in the absence of free alkali; otherwise the result gives the total HCl consumption for alkali and sulfide. If in the alk. dye soln. the potentiometric titration with I (after neutralization with $NaHCO_3$) and with $AgNO_3$ or $HgCl_2$ on the one hand and with HCl and the glass electrode on the other are carried out, then the contents of the bath in sulfide, in thiosulfate and in free alkali are obtained. The conductometric titration of the bath with HCl permits the detn. of the sulfide content in the absence of free alkali.

M. G. Mowe



New laboratory apparatus for electrometric analysis.
L. I. [illegible], Zavodskaya Lab. 7, 834-41 (1938).—
American and Soviet app. for the potentiometric and
conductometric analysis are illustrated and described.
Chas. Blanc



CA

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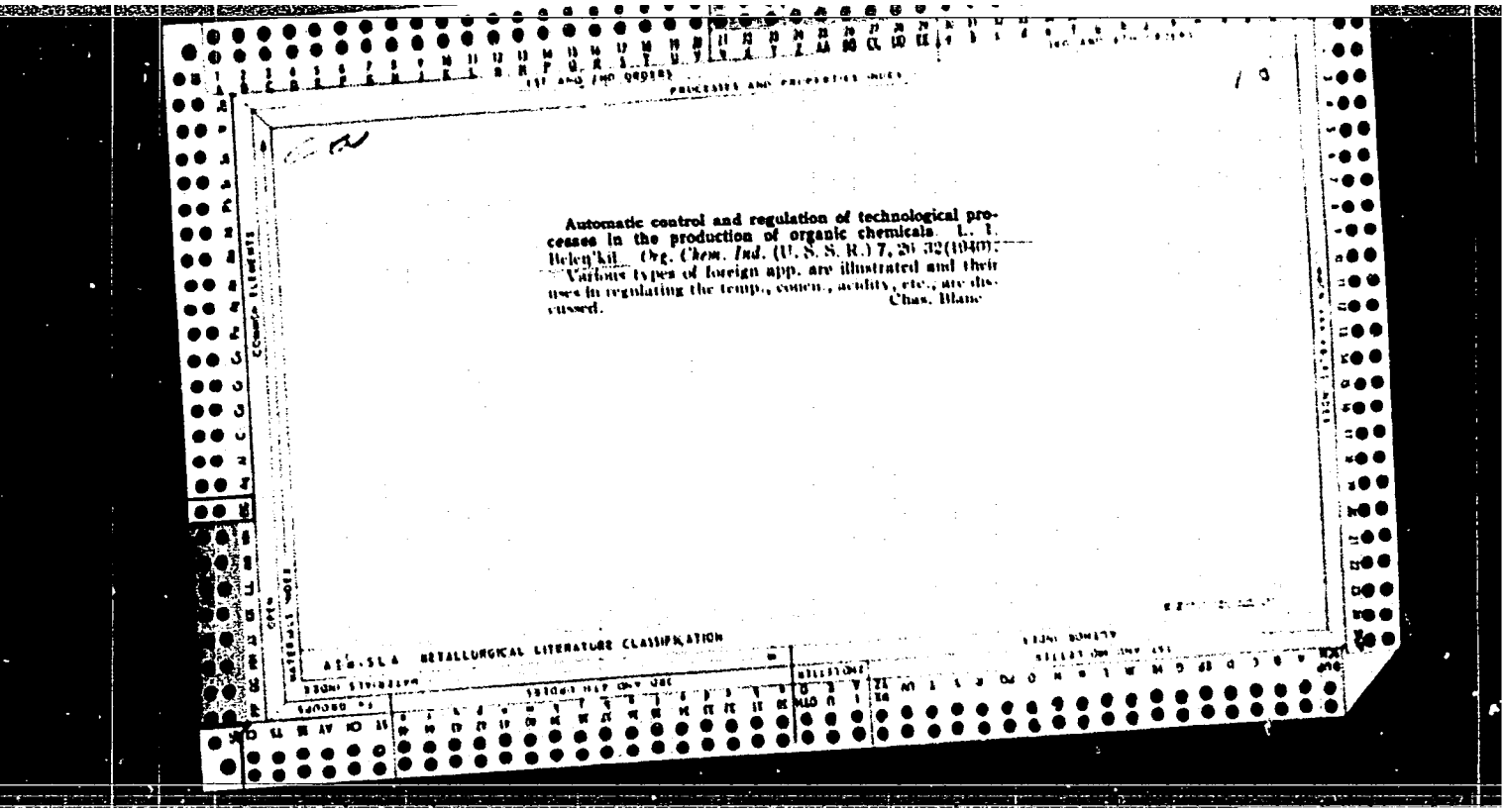
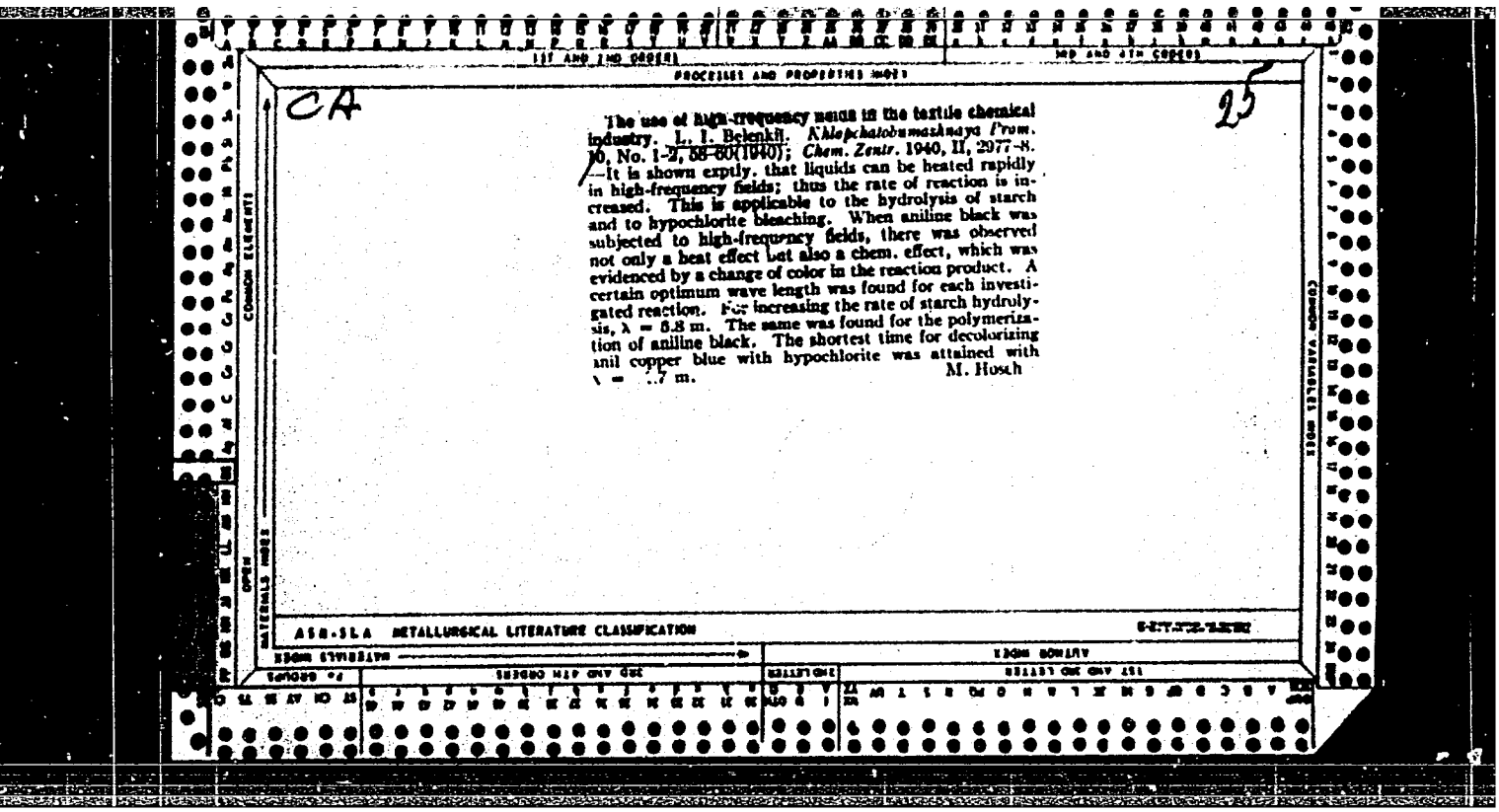
The use of high-frequency vibrations in the textile-chemical industry. L. I. Belenkii. *Khlopchatobumazhnaya Prom.* 9, No. 11, 35-7(1939); *Chem. Zentr.* 1940, II, 1671.—Any cotton material (yarn or fabric) can be heated by means of high-frequency currents regardless of the thickness of the specimen. This results in a more or less intensive drying of the material. The action of the high-frequency field is purely thermal in character (the development of Joule heat). The particular effect of the action is the production of readily penetrating heat in deep layers of the material, which is achieved by special arrangement of the electrodes. Exposure of cotton to the high-frequency field for 30 min. produces no specific changes in the material.

M. G. Moore



Automatic control and regulation of technological processes in the production of organic chemicals. L. I. Belen'kii. *Org. Chem. Ind.* (U. S. S. R.) 7, 26-32(1940).—Various types of foreign app. are illustrated and their uses in regulating the temp., concn., acidity, etc., are discussed. Chas. Blanc

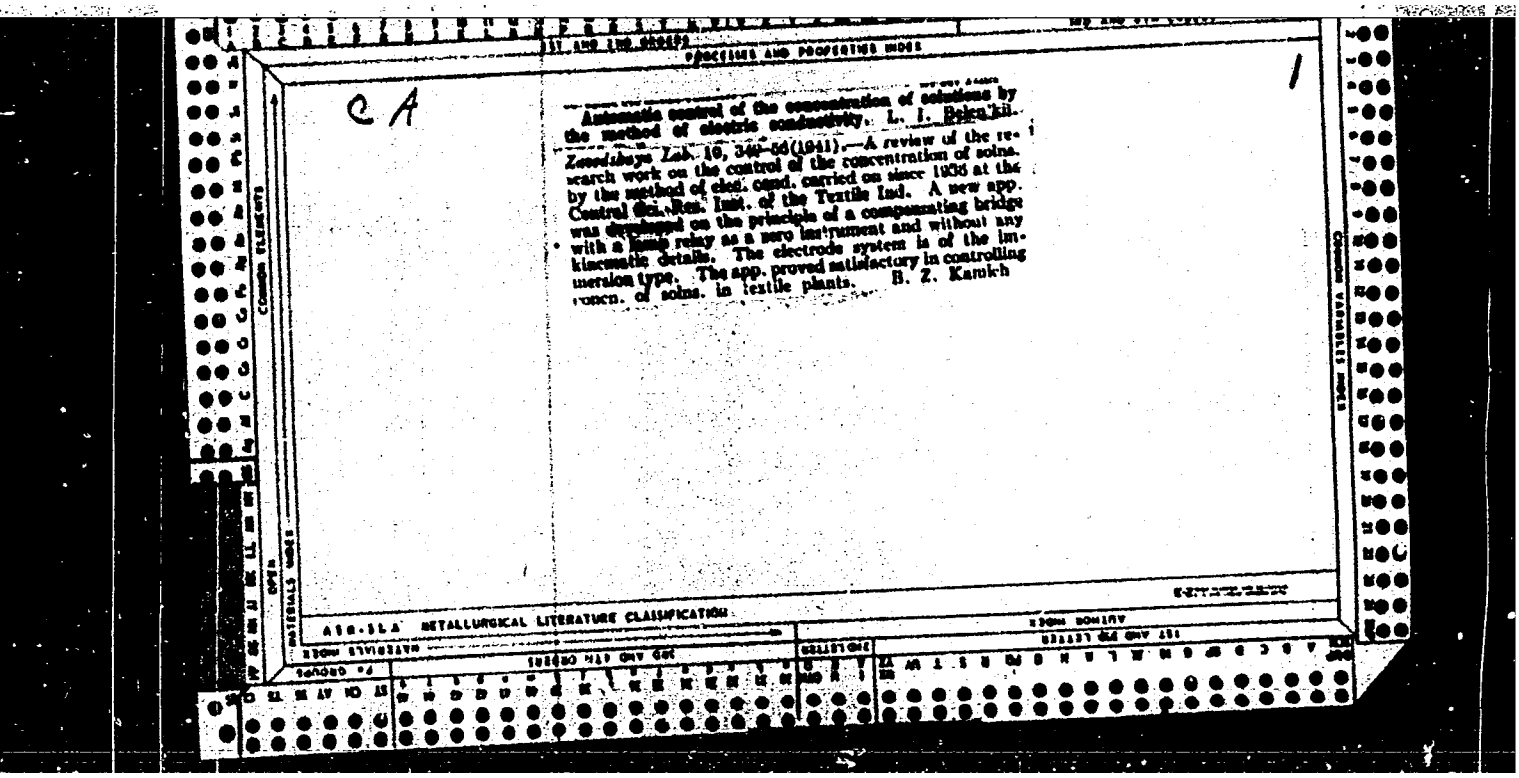


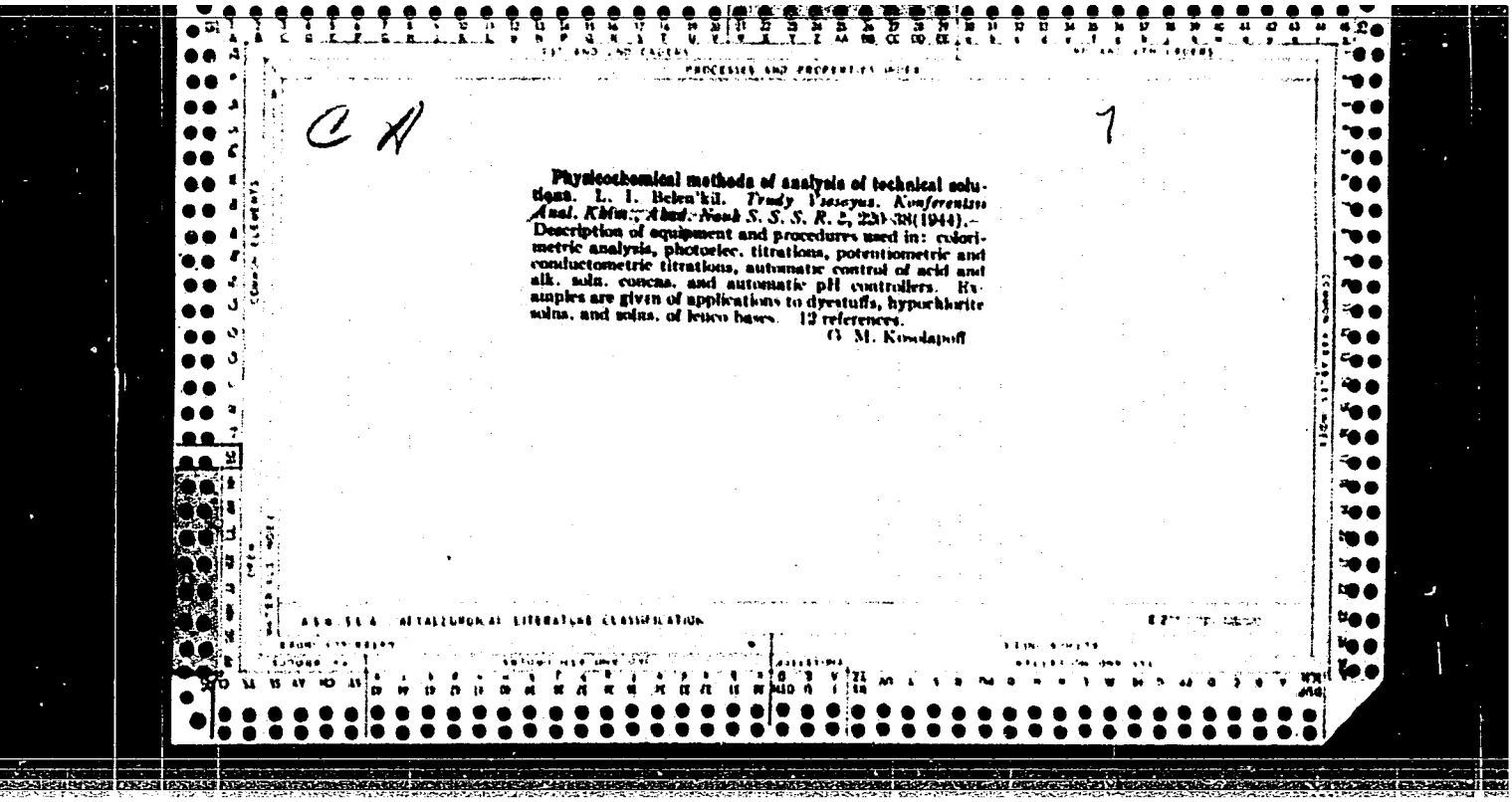
CA

25

The use of high-frequency fields in the textile chemical industry. L. I. Belenkii. *Khlopchatobumazhnaya Prom.* 10, No. 1-2, 58-60(1940); *Chem. Zentr.* 1940, II, 2977-8. —It is shown exptly. that liquids can be heated rapidly in high-frequency fields; thus the rate of reaction is increased. This is applicable to the hydrolysis of starch and to hypochlorite bleaching. When aniline black was subjected to high-frequency fields, there was observed not only a heat effect but also a chem. effect, which was evidenced by a change of color in the reaction product. A certain optimum wave length was found for each investigated reaction. For increasing the rate of starch hydrolysis, λ = 6.8 m. The same was found for the polymerization of aniline black. The shortest time for decolorizing anil copper blue with hypochlorite was attained with λ = ..7 m.

M. Hosch





CH

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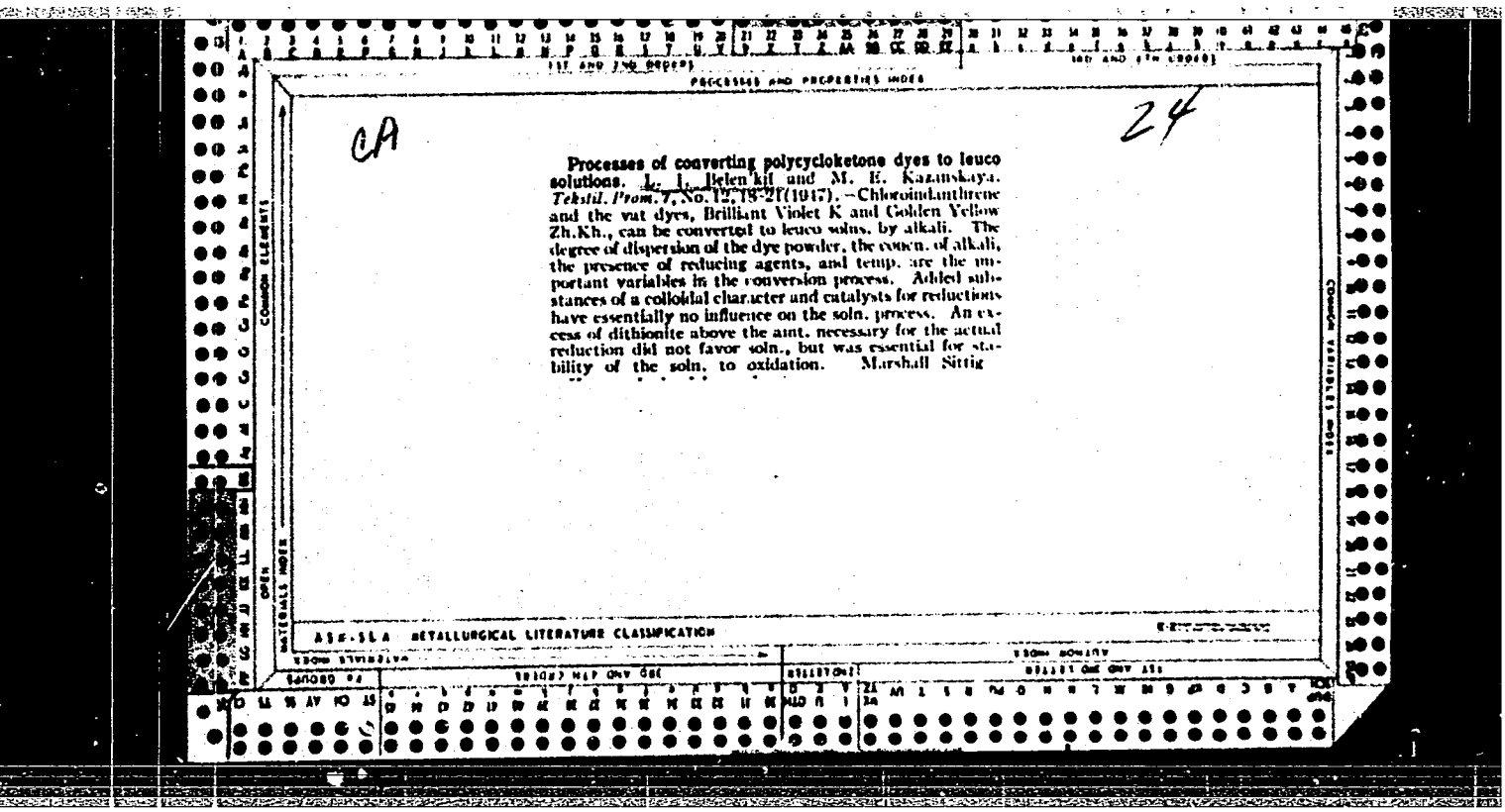
Physicochemical methods of analysis of technical solutions. L. I. Belen'kii. *Trudy Vsesoyus. Konferentsii Anal. Khim., Akad. Nauk S. S. S. R.* 2, 221-38(1944).—Description of equipment and procedures used in: colorimetric analysis, photoelec. titrations, potentiometric and conductometric titrations, automatic control of acid and alk. soln. concns. and automatic pH controllers. Examples are given of applications to dyestuffs, hypochlorite solns. and solns. of heavy bases. 12 references.

G. M. Kosolapoff



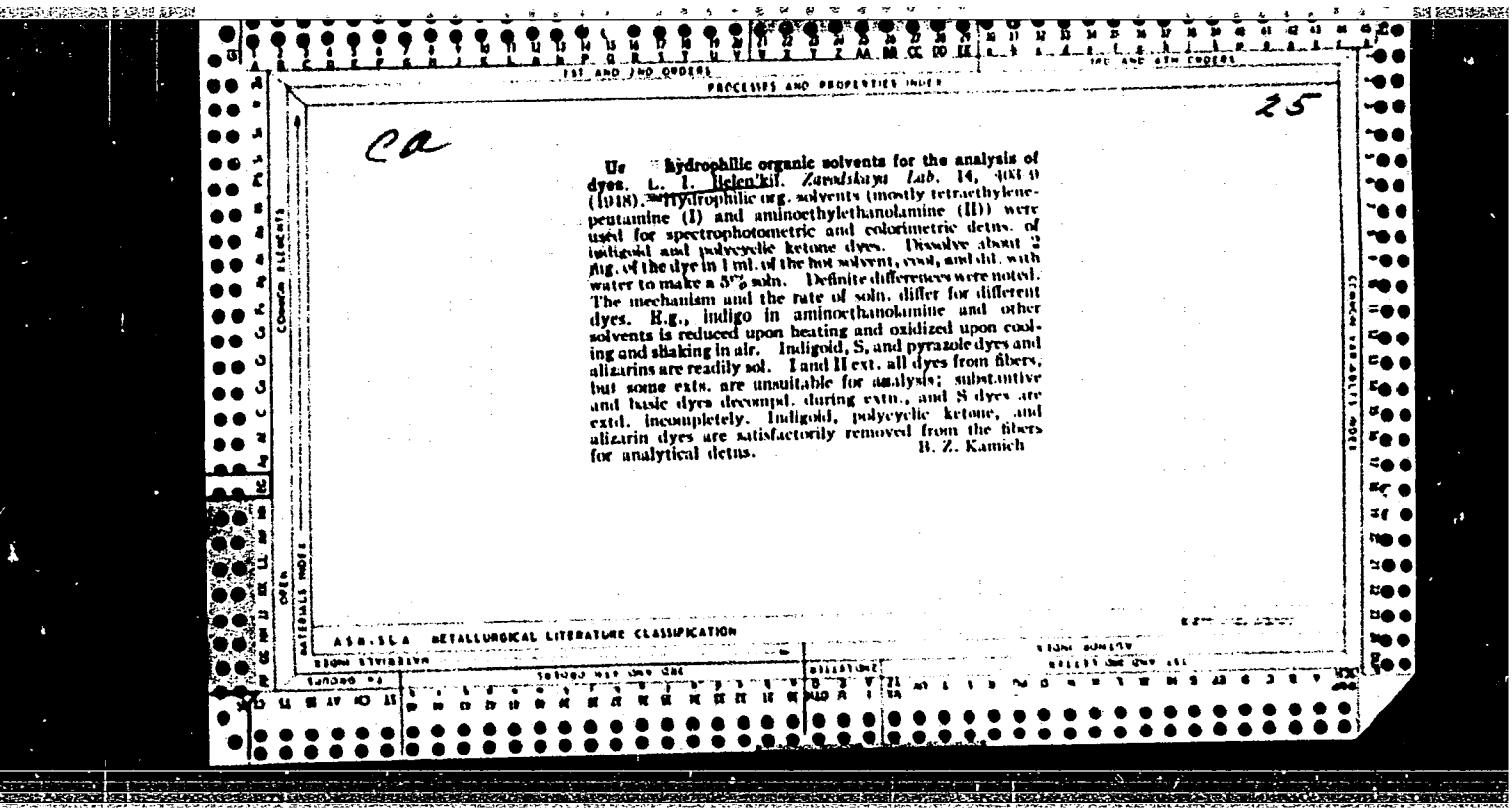
CA

24

Processes of converting polycycloketone dyes to leuco solutions. L. I. Belen'kii and M. E. Kazanskaya. *Tekstil. Prom.* 7, No. 12, 18-21(1947).—Chloroindanthrene and the vat dyes, Brilliant Violet K and Golden Yellow Zh.Kh., can be converted to leuco solns. by alkali. The degree of dispersion of the dye powder, the concn. of alkali, the presence of reducing agents, and temp. are the important variables in the conversion process. Added substances of a colloidal character and catalysts for reductions have essentially no influence on the soln. process. An excess of dithionite above the amt. necessary for the actual reduction did not favor soln., but was essential for stability of the soln. to oxidation. Marshall Sittig

BEILEN'KIY, L.I.

Remote control and regulation of the strength of solutions. Tekst. prom.8 no.2:22-25 F '48. (MLRA 8:11)
(Textile chemistry) (Remote control)



PROCESSES AND PROPERTIES INDEX

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Ca

Use of hydrophilic organic solvents for the analysis of dyes. L. I. Helen'kii. *Zavodskaya Lab.* 14, [illegible] (1948). Hydrophilic org. solvents (mostly tetraethylenepentamine (I) and aminoethylethanolamine (II)) were used for spectrophotometric and colorimetric detns. of indigoid and polycyclic ketone dyes. Dissolve about 2 mg. of the dye in 1 ml. of the hot solvent, cool, and dil. with water to make a 5% soln. Definite differences were noted. The mechanism and the rate of soln. differ for different dyes. E.g., indigo in aminoethanolamine and other solvents is reduced upon heating and oxidized upon cooling and shaking in air. Indigoid, S, and pyrazole dyes and alizarins are readily sol. I and II ext. all dyes from fibers, but some exts. are unsuitable for analysis; substantive and basic dyes decompd. during extn., and S dyes are extd. incompletely. Indigoid, polycyclic ketone, and alizarin dyes are satisfactorily removed from the fibers for analytical detns.

B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

Rationalization of cold dyeing. L. I. Belen'kiĭ, S. S. Rakhlina, and M. E. Kazanskaya. *Tekhn. Prom.* 1949, No. 12, 25–8.—An account is given of analytical methods for the control of azoic dyeing. The concn. of "azotol" coupling (Naphtol) solns. is detd. by ultraviolet absorption spectrophotometry; Naphtols on the fabric are converted into insol. pigments which are detd. colorimetrically; diazo salts are estd. colorimetrically after coupling with Naphtols in the presence of a protective colloid forming a colored sol. at pH 12; free alkali in Naphtol soln. is estd. conductimetrically; pH and buffering are controlled by the glass electrode and potentiometric titration, resp. B. A.

B1 Bilenky, L. L.

Automatic regulation of the concentration of solutions of sodium hypochlorite. L. L. Bilenky, M. E. Kazanskaya, and N. V. Kasyanenko (*Tekst. prom.*, 1950, No. 2, 26—29).—Experiments on the automatic electrical control of NaOCl concn. in bleach liquor are described, based on the linear relation between sp. conductivity and concn. of active HCl. A full-scale installation is described briefly.

F. H. Uvarov.

USSR/Chemistry - Analysis, Solutions Nov 50

"Measuring the Value of pH With a Glass Electrode," L. I. Belen'kiy, Cen Sci Res Inst Cotton Ind

"Zavod Lab" No 11, pp 1283-1299

Outlines application of glass electrodes, glass for electrodes, describing their constr and properties. Discusses methods for measuring emf of systems with glass electrodes, mainly those using electronic equipment. Briefs measuring instr of Soviet manuf. Offers some suggestions for standardization of electrode syst and measuring instr in conformity with industrial requirements.

180T1

USSR/Engineering - Meters, Electric Jan 50
Meters, Calibration

"Vacuum Tube pH-Meter," L. I. Belen'kiy, Ya. B. Rozman, Cen Sci Res Inst of Cotton Ind, 3 pp

"Zavod Lab" Vol XVI, No 1

Apparatus, designed for use in industrial laboratories, can operate from industrial frequency AC circuit. System uses thin-walled mechanical bridge, 6Zhm tubes, high-ohmic galvanometer (2.5.10-7 a), and 105-S-30 neon stabilizer for plate voltage. Tubes operate with reduced plate

15918

USSR/Engineering - Meters, Electric (Contd) Jan 50

voltage (ca 50v) but normal filament voltage. Sensitivity of system is 3.5 mv (0.06 pH) for one galvanometer graduation.

159T18

BELEN'KIY, L.I.

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
General and Physical Chemistry

Laboratory and industrial control of pH value by means of glass electrodes. L. I. Belen'kiĭ. *Trudy Komissii Anal. Khim. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 4(7), 180–95(1952); cf. *C.A.* 46, 10008*i*.—The asymmetry potential, the $\Delta E/\Delta pH$, and the resistance to a const. current were detd. at 17° for a large no. of glass electrodes made from lime-Na glass, Corning glass 0.15, or Pb-Na-K glass. The temp. coeffs. were identical for these 3 glasses. After a lime-Na glass electrode was immersed approx. 71 days in NaClO soln. (0.01*N* in NaOH, 3 g./l. of active Cl), its curve *E*-pH was displaced 0.7 pH higher. This displacement was 0.6 pH after 2 weeks. The curve was plotted from the value of *E* for buffer solns. of pH4 and pH7. Magnesia glass was not suitable as electrode material. A lab. *pH meter*, a lab. *potentiometer*, and a recording pH meter (all line-fed) were built and are described in detail.
Eurilla Mayerle

MF 7-13-54

BELEN'KIY, L.I., KAZANSKAYA, M.YE.

Sodium Hyposulfite

New method of analyzing hydrosulfite, Tekst. prom. 12, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952, Unclassified.