

GALLAI, Tibor

Critical graphs. Pt. 2. Mat kut kozl MTA 8 series A no. 3:
373-395 '63('64).

1. Editorial board member, "A Magyar Tudományos Akadémia Matematikai
Kutató Intézetének Közleményei."

GALLAI, Tibor

Elementary correlations relating to the members and dissociative points of graphs. Mat kut kozl MTs 9 Series A no.1/2:235-236 '64.

1. Editorial Board Member, "A Magyar Tudományos Akademia Matematikai Kutato Intezetenek Kozlemenysei."

GALLAI, Zoltan

HARASZTI, Istvan, dr.,; GALLAI, Zoltan, dr.

Role of penicillin in prevention of congenital syphilis. *Borogyog. vener. szemle* 8 no.4:127-129 July 54

(SYPHILIS, prevention and control)
prev. of congen. syphilis by penicillin)
(PENICILLIN, ther. use
syphilis, congen., prev.)

GALLAI, Zoltan

RACZ, Istvan, dr.; GALLAI, Zoltan, dr.; FOLDES, Miklos, dr.

Data on action mechanism of unsaturated fatty acids in the therapy of childhood eczemas. *Borgyogy. vener. szemle* 9 no. 6:225-228 Nov 55.

- (LINOLEIC ACID, therapeutic use
eczema with hypochromic anemia in child, with linolenic acid, eff. on hematopoiesis.)
- (FATTY ACIDS, therapeutic use
linolenic acid with linoleic acid, in eczema with hypochromic anemia in child, eff. on hematopoiesis)
- (ECZEMA, in infant and child
compl., hypochromic anemia, ther., linoleic & linolenic acid, eff. on hematopoiesis)
- (ANEMIA HYPOCHROMIC, in infant & child
compl., eczema, ther., linoleic & linolenic acid, eff. on hematopoiesis)

GALLAI, Zoltan

RACZ, Istvan, dr.; GALLAI, Zoltan, dr.

Chlorpromazine in the therapy of skin diseases. Orv. hetil.
97 no.15:398-399 8 Apr 56.

1. A Nephadsereg Egészségügyi Szolgálatnak közleménye.

(PSORIASIS, ther.

chlorpromazine, results. (Hun))

(ECZEMA, ther.

same)

(BLISTER

form., exper., induced by iodoacetic acid, eff. of
chlorpromazine. (Hun))

(CHLORPROMAZINE, ther. use

eczema, psoriasis & exper. blister form., results.
(Hun))

EXCERPTA MEDICA Sec. 13 Vol. 11/7 Dermatology July 57

1815. RÁCZ St. and GALLAI Z. Budapest. *Angaben zur Rolle des Largactils bei der Behandlung einiger Hautkrankheiten. The role played by largactil in the treatment of some skin diseases DERM. WSCR. 1956, 134/28 (770-773) Tables 3

Largactil, 3-chloro-10-(3-dimethylaminopropyl)phenothiazine hydrochloride, inhibits the function of the parasympathetic, lowers the blood pressure, is anti-spasmodic, sedative, antipyretic and antihistaminic. Six patients with psoriasis vulgaris, and 16 with various types of eczemas were treated with largactil, 3 doses of 25 mg. There was no visible effect upon the cases of psoriasis but in the eczematous patients, a marked reduction or complete disappearance of itching and thus improvement of the pathological picture, was observed. Rust - Berlin

190126

USSR/Chemistry - Oxygen, Chlorine Production Aug 51

"Method for Separate Catalytic Production of Oxygen and Chlorine From Ca(ClO)₂" V. M. Gallak

"Zhur Prikl Khim" Vol XXIV, No 8, pp 798-806

Ca(ClO)₂ with small amts of catalysts at low temps can activate oxidation processes, while O₂ may be prepd with larger amts of catalysts at higher temps. Catalysts are oxides of Ni, Co, Fe, Cu, Mn, most satisfactory for development of O₂ being Co+Fe in 3:2 ratio. Catalysts and Ca(ClO)₂ will not interact in absence of H₂O. Inexpensive, available Ca(ClO)₂

190126

USSR/Chemistry - Oxygen, Chlorine Production Aug 51 (Contd)

can be used to replace very scarce KClO₃ (for production of O₂) and compds of Mn and HCl (for production of Cl₂).

190126

GALLAK, V. M.

GALLAK, V.M.; BELINSKAYA, N.I.; PAVLOVA, T.A.

Chlorination of methane by chlorine oxide. Zhur.prikl.khim. 38
no.11:2599-2602 N '65.

(MIRA 18:12)

1. Submitted October 14, 1963.

GALLAK Y.M.

The chemical dyeing of wood with nitrogen oxides. V. M. Gallak. *Doklady Akad. Nauk SSSR*, 1954, No. 4, 10-11(1954).--Wood from aspen, pine, larch, beech, and oak was dyed with N oxides; the insect and bacterial resistance of the wood was increased, and the surface given an orange to brown color. The wood may be dyed by subjecting it for 5 min. to an atm. of NO₂ (prepd. from NO and O₂), or by immersion of the wood for 10-35 min. in a 5% aq. soln. of FeSO₄·7H₂O followed by treatment for 10 min. with NO. In the prepn. of NO, 6.8 g. FeSO₄·7H₂O and 0.20 g. NaNO₂ are mixed and 1.3-1.4 cc. H₂O is added. The gases are highly toxic. John Lake Key...

GALLAK, V.M.; BELINSKAYA, N.I.; PAVLOV, T.A.

Method of preparing chlorine oxide. Zhur.prikl.khim, 38 no.6:1225-
1229 Je '65.

(MIRA 18:10)

GALLAN, A., inz.

Final reports on scientific research tasks assigned by the
Czechoslovak Academy of Sciences, Building and Architecture
Institute of the Slovak Academy of Sciences, Bratislava.
Stav cas 11 no.8:532 '63.

MEGHEA, C.; DACU, Gh.; CONSTANTINESCU, M.; GALLANI, S.; IVANESCU, V.; NEGOESCU, M.

Our experience with the one-stage complex surgical cure of complicated thoracic tuberculous spndylitis. Rumanian med. rev. 7 no.3: 70-73 Ja-Mr'64.

*

CALUSINSKI, Bogdan, mgr.; GALLAR, Jan, mgr. inz.; SKORUPA, Andrzej,
mgr. inz.

Testing pressure welds in steel constructions with the **ZSK-2**
magnetic flaw detector. Przegl. spaw 15 no.10:228-229 0'63

1. Akademia Gorniczo-Hutnicza, Krakow.

GOLECKI, Jozef; GALLAR, Jan

Design solutions and computing methods of blast furnace skip
hoists. Problemy prof hut maszyn 12 no.8:229-236 Ag '64.

1. School of Mining and Metallurgy, Krakow.

CALUSINSKI, Bogdan, mgr.; GALLAR, Jan, mgr. inz.; SKORUPA, Andrzej, mgr inz.

Magnetic method of testing butt welds. Przegl spaw 16 no.7/8:
189-190 J1-Ag'64

1. Technical University, Czestochowa (for Calusinski). 2. School
of Mining and Metallurgy, Krakow (for Gallar and Skorupa).

L 61967-65 EWP(c)/EWP(v)/T/EWP(k)/EWP(l)/ETQ(m) Pf-4 WFF
ACCESSION NR: AT50.15383 PO/2531/64/000/005/0145/0150

19
18
B+1

AUTHOR: Calusinski, Bogdan; Gallar, Jan

TITLE: Investigations on a prototype of the ZSK-1 transistorized magnetic flaw detector

SOURCE: Czestochowa, Politechnika. Zeszyty naukowe, no. 24, 1964. Nauki podstawowe, no. 5, 145-150

TOPIC TAGS: magnetic defectoscope, flaw detection, transistorized flaw detector

ABSTRACT: In the introductory section, the paper briefly discusses the present-day achievements in the testing of magnetic materials using magnetic flaw detectors. The difference method and the bridge method of magnetic flaw detection are discussed. A new design for a magnetic flaw detector using the bridge method is proposed. Its schematic is shown in Fig. 1 of the Enclosure. A one-stage amplifier was found to provide sufficient gain on account of the high sensitivity of the detector (an earphone from a hearing-aid apparatus). The complete instrument was mounted on a 20x9 cm celluloid plate. A 3-point measurement procedure is given. Appearance of an acoustic signal in the earphone indicates the presence of a flaw, and the signal intensity provides some measure of the flaw extent. The method of measuring the instrument sensitivity is also given. The instrument can detect, with sufficient certainty, flaws 1 mm in diameter at a depth of 18 mm under the

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L 61367-55

ACCESSION NR: AT5015383

surface. Various possible applications of this instrument are given. Orig. art. has 3 figures.

ASSOCIATION: Katedra Fizyki, Katedra Mechaniki i Wytrzymałości Materiałów, Politechnika Częstochowska (Departments of Physics and of Mechanics and Strength of Materials, Częstochowa Polytechnic Institute)

SUBMITTED: 00

ENCL: 01

SUB CODE: EC, IE

NO REF SOV: 001

OTHER: 003

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L 61967-65

ACCESSION NR: AT5015383

/ sample under test

ENCL: 01

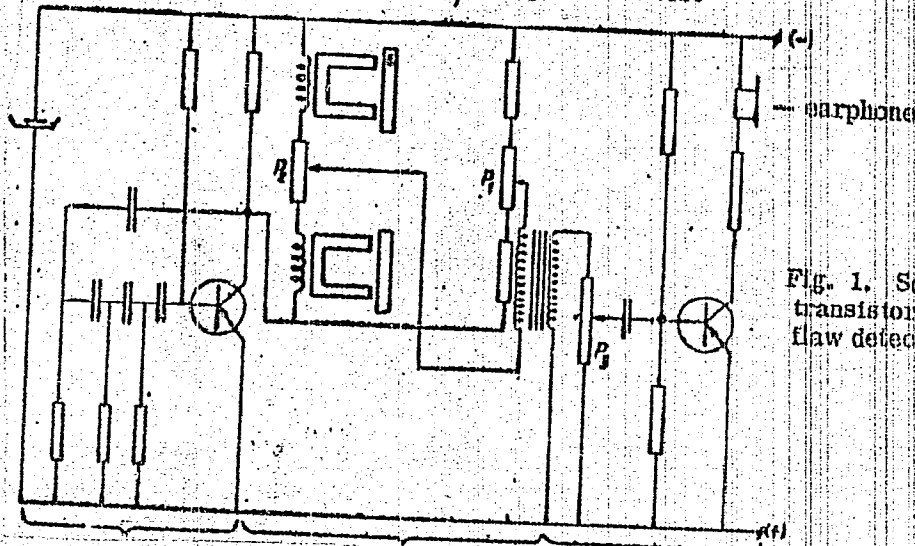


FIG. 1. Schematic of the transistorized magnetic flaw detector

1000 cps oscillator
Card 3/3 *llc*
measuring circuit amplifier and supply

L 38141-65 EWP(d)/EWP(e)/EWP(f)/EWP(g)/EWP(h) P/0034/65/000/002/0082/0083

ACCESSION NR: AP5006980

AUTHOR: Calusinaki, B. (Master); Golecki, J. (Docent, Doctor, Engineer);
Gallar, J. (Master engineer)

TITLE: The transistorized magnetic flaw detector ZSK-2

SOURCE: Pomlary, automatyka, kontrola, no. 2, 1965, 82-83

TOPIC TAGS: Flaw detector, magnetic flaw detector, transistorized flaw detector,
internal flaw / ZSK-2 flaw detector

ABSTRACT: The paper discusses the methods of magnetic flaw detection used so far from the standpoint of detecting flaws located far below the surface (internal flaws). It notes that there are no methods at present which can detect flaws lying deeper than 20 mm with the exception of the expensive x-ray methods. The paper describes in detail and discusses the principle of operation and the construction of an instrument for detecting deep lying flaws (Polish Patent No. 100609). Fig. 1 of the Enclosure shows the schematic of the measuring system of the instrument and Fig. 2 shows the block diagram of the flaw detector. The frequency of the generator of sinusoidal oscillations is 4 cps and the oscillation amplitude is about 3 volts. The voltage amplification factor of the selective amplifier is 1500. A procedure for using this instrument is given.

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7 20141-65
ACCESSION NR: AP5006980

Orig. art. has: 3 figures.

ASSOCIATION: Politechnika Czestochowska (Czestochowa Polytechnic Institute);
(Golecki, Gallar) Akademia Gorniczo-Hutnicza, Krakow (Mining and Metallurgical
Academy)

SUBMITTED: 00

ENCL: 02

SUB CODE: EC, IE

NO REF SOV: 003

OTHER: 005

Card 2/4

TOMANEK, A.; PULPYTEL, J.; GALLAS, J.

A new method of measurement of respiratory movements of the bronchi.
Cesk.otolar.9 no.5:271-273 O'60.

1. Vyzkumny ustav tuberkulozy v Praze 8, reditel doc.dr. R.Krivinka.
(BRONCHI physiol)
(RESPIRATION)

ACCESSION NR: AP4033066

P/0034/64/000/004/0168/0169

AUTHOR: Calusinski, Bogdan (Tsalusin'ski, B.) (Master in arts); Gallar, Jan
(Master engineer)

TITLE: The transistor magnetic ZSK-1 flaw detector

SOURCE: Pomiar, automatyka, kontrola, no. 4, 1964, 168-169

TOPIC TAGS: flaw detector, bridge detector, magnetic flaw detector, ZSK-1
flaw detector

ABSTRACT: The authors designed the ZSK-1 because of a lack of this type of flaw detector in Poland. The design is based on detection by the bridge method. The instrument (Fig. 1) consists of an RC transistor generator with acoustic frequency, a bridge measuring system, a transistor amplifier, and receivers. It has a frequency $f = 1000$ Hz, an amplitude of electric motor power output $E_0 = 2$ V, and an output impedance $R_{output} = 1$ k Ω . It detects flaws that are 1 mm in diameter, located at depths of 10 mm. A slight change in the shape or dimensions of the core in the measuring system makes the instrument suitable for detecting flaws due to diminution, inclusion, and concentration of strain in ferromagnetic materials, for studying the thickness of ferromagnetic plates, and for studying

Card: 1/3

ACCESSION NR: AP4033066

the thickness of foil or coatings made of nonmetallic materials. Work to improve the ZSK-1 flaw detector continues. Orig. art. has: 3 figures.

ASSOCIATION: Politechnika Czestochowska (Czestochowa Polytechnic); Akademia Gorniczo-Hutnicza, Krakow (Mining Academy)

SUBMITTED: 00

DATE ACQ: 15May64

ENCL: 01

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NO REF SOV: 002

OTHER: 000

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ACCESSION NR: AF4033066

ENCLOSURE: 01

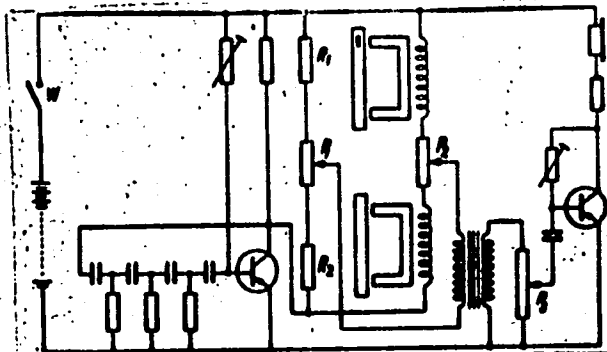


Fig. 1. Schematic diagram of the ZSK-1 flow detector

1 - R_1 and R_2 - Rheostats; 2 - P_1 , P_2 , and P_3 - Potentialmeters; 3 - W - Switch

Card 3/3

SABACKY, Vladimir, inz.; HOMOLA, Bedrich, inz.; VAVRA, Miroslav, inz.;
GALLAS, Jan

Effectiveness of the construction of main lumberyards depends
on the use of heavy duty machines. Les cas ll no.3:249-272
Mr '65.

1. Enterprise Management of State Forests, Brno (for Sabacky
and Homola). 2. Forest Enterprise Telc (for Vavra). 3. Forest
Enterprise Rajnochovice (for Gallas). Submitted November 3,
1964.

CA

23

Flotation methods for purification of waste waters. *Wolfe, C. G. ~~Callan~~ *Drinking Paper* 6, 17-20 (1950).—The problem of reuse of white water in paper mills is discussed from the view of industrial economy, stream pollution, and recovery of fiber and other raw materials. Various methods of white-water treatment prior to its release into streams, with particular emphasis on flotation-type save-alls, are described. T. R. Zegree*

GALLAS, W.

"The Massey Coating Equipment" p. 26. (Przegląd Papierniczy, Vol. 9, no. 1, Jan. 1953, Lodz)

SO: Monthly List of East European Accessions, Vol.3, No.2, Library of Congress, Feb. 1954

GALLAS W.

GALLAS, W.; RZYSKI, J.

How operational difficulties of papermaking machine No. 5 were overcome in the Paper Factory of Myszkow. p. 237. (PRZEGLAD PAPIERNICZY, Vol. 10, No. 8, Aug. 1954, Lodz, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

GALLAS, W.

GALLAS, W. Modernization of the paper machine to improve production. p. 270

Vol. 12, no. 9, Sept 1956

PRZEGLAD PAPIERNICZY

TECHNOLOGY

Lodz, Poland

So: East European Accession Vol. 6, no. 2, 1957

GAILAS, W.

Modernization of the cigarette-paper machine

P. 45 (PRZELGAD PAPIERNICZY) (Lodz, Poland) Vol. 13, no. 2,
Feb. 1957

SO: Monthly Index of East European Accession (EEAE) IC Vol. 7, No. 5, 1958

GALLAS, Wojciech, inż.

Automatic paper sorting. Przegl papier 19 no.12: 383-386 D'63.

1. Biuro Projektow Przemyslu Papierniczego, Lodz.

GALLAS, Wojciech, inż.

Radiclon type hydrocyclone cleaner. Przegl papier 20
no. 1: 18-20 Ja '64.

Gallus, Mojciak, inc.

Application of pneumatic transportation in the pulp and paper industry. Pt. 1. Przegl papier 20 no.6:183-186 Je '64.

1. Design Office of the Paper Industry, Lodz.

GALLAS, Wojciech, inż.

Use of pneumatic transportation in the pulp and paper industry.
Pt. 2. Przegl papier 20 no.7:218-222 JI '64

1. Design Office of Paper Industry, Lodz.

STASINSKI, Witold, mgr inz.; GALLAS, Wojciech, inz.

Paper machine No.4 in the Szczecin Pulp and Paper Mill in Skolwin. Przegl papier 20 no.10:323-329 0 '64.

1. Szczecin Pulp and Paper Mill, Skolwin (for Stasinski).
2. Design Office of Paper Industry, Lodz (for Gallas).

GALLATI, I.; SAGY, Z.; HANOS, NY.

Civil engineering experiences in the Soviet Union. p. 511.

MAGYAR SZEPESLET. (Magyar Tudományos Egyesület) Budapest, Hungary.
Vol. 8, no. 10, Oct, 1959.

Monthly List of East European Accessions (LEA) IC, Vol. 3, no. 1, Jan. 1960

U.c1.

TRET'YAKOV, Andrey Vladimirovich; GALLAY, B.M., redaktor; VALOV, N.A.,
redaktor izdatel'stva; KARASNY, A.I., tekhnicheskiy redaktor

[Rolling thin strips] Prokatka tonchaishei lenty. Moskva, Gos.
nauchno-tekhn.izd-vo lit-ry po cherno i tsvetnoi metallurgii,
1957. 96 p. (MIRA 10:7)
(Rolling (Metalwork))

GALLAY, Michal, inz.

Waterwork of Velka Domasa. Vodni hosp 13 no.1:37-38 '63.

34289
S/004/62/000/003/001/001
D238/D301

17.4100

AUTHORS: Kibardin, Yu., Candidate of Technical Sciences, and
Gallay, M., Honored Test-Pilot of the USSR, Hero of
the Soviet Union

TITLE: Barrier of the unknown. Engineers look forward

PERIODICAL: Znaniye - sila, no. 3, 1962, 17 - 19

TEXT: The article is based on an incident in a Soviet feature film "Barrier of the Unknown", which is shortly to be released. A super-fast test plane (no undercarriage) is cruising at 5,200 km/hr at a height of 92,000 meters waiting to be picked up by the carrier plane. A blue glow suddenly develops outside the plane and envelops the whole fuselage. However, it is not sensed by the pilot and is not recorded on any of the instruments. This phenomenon is then left to the two authors mentioned above to explain. Kibardin gives two possible explanations of the phenomenon. 1) The temperature of the boundary layer rises sufficiently to cause molecular dissociation of the air and the formation of atomic oxygen and nitrogen.

Card (1/2)

Barrier of the unknown. Engineers ...

S/004/62/000/003/001/001
D298/D301

These then enter into chemical reaction to form nitrous oxide, a gas that can glow at high temperatures. Although the glow is of no danger, the active atomic oxygen may enter into reactions with the superheated metal fuselage of the plane, weaken its strength and lead to an explosion. 2) Through friction with the air the plane may become charged to a very high potential and become a source of electrical discharge in the form of a cold glow. Gallay gives no explanation of the glow phenomenon but describes the development up to the end of World War II of the launching and recovery of planes from a carrier plane in the Soviet Union. Persons mentioned as connected with this development are: Aviation Engineer V.S. Vakhmistrov, Test-Pilots Anisimov and V.P. Chkalov, Pilot A.I. Zalevskiy, Test-Pilot V.A. Stepachenok, Captain Arseniy Shubikov. The authors point out that nobody has yet seen such a glow as is described. There are 6 photos.

Card 2/2

L 10409-63 PA/EPA(b)/EWT(d)/EWT(1)/EWA(g)/EWT(m)/BDS/ES(v)--ARDC/AFFTG/
ASD/AFMDC/APGC/SSD--Pd-4/Py-4/Pe-4
PHASE I BOOK EXPLOITATION

SOV/6364

Gallay, M. L.

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Osobennosti pilotirovaniya reaktivnykh samoletov (Special Features
in Piloting Jet Aircraft) Moscow, Izd-vo DOSAAF, 1962. 195 p.
Errata slip inserted. 7600 copies printed.

Ed.: A. A. Vasil'yev; Tech. Ed.: L. T. Mikhlina.

PURPOSE: This manual is intended to familiarize pilots, instructors,
and engineering personnel in the handling of jet aircraft. It can
be used also by DOSAAF schools and the Civil Air Fleet.

COVERAGE: The book discusses the theory of high-speed aerodynamics,
and the piloting of jet aircraft under various conditions.

TABLE OF CONTENTS [Abridged]:

Introduction

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Mention is made of an experimental aircraft
which has attained speeds exceeding Mach 5,

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Special Features in Piloting Jet Aircraft

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3

and of the development and introduction of special equipment for rapid pressurized fueling of aircraft.

Ch. I. Takeoff Procedures For Jet Aircraft

14

A number of designs for the control of a wing's boundary layer have been drawn up, and the first wind-tunnel and flight tests have given positive results.

Ch. II. Ascent and Ceiling

40

Ch. III. Flight at High Speeds and Altitudes

55

The spontaneous oscillation of an aircraft at high altitudes is eliminated by an oscillation damper, which is part of the control system. The damper automatically compensates for aircraft oscillation, and pilot control is achieved with one motion of the controls.

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Special Features in Piloting Jet Aircraft	SOV/6364 /
Ch. IV. Range and Duration of Flight	95
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Ch. VI. <u>Landing</u> Approach and Touchdown	156
Ch. VII. Special Features on the Control of the Rudder, Aileron, and Propulsion Systems of Jet Aircraft	179

Automatic electronic devices for simplifying controls, already in use, will be applied on a large scale, as will cybernetic piloting units. The automatic fuel devices used on all modern jet engines independently regulate the engine to the flight program designated by the pilot with a "single jerk" of the control levers.

AVAILABLE: Library of Congress

SUBJECT: Aerospace

bm/ch
Card 3/3

AD/dk/jw
7/30/63

GALIA^Y, M. L.

Opredelenie profil'nogo soprotivleniia kryla samoleta v polete metodom impul'sov. Moskva, 1938. 36 p., illus., tables, diagrs. (TSAGI. Tekhnicheskie zashetki, no. 161)

Bibliography: p. 36.

Title tr.: Determination of profile drag in flight by momentum measurements.

TL570.M6 no. 161

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

GALLAY, M.L.

Vliianie skorostnogo polia vkrug samoleta na pokazania al'timetrov i barografov. (TSAGI, Trudy, 1939, p. 3-9, illus., diags.)

Title tr.: Effect of velocity distribution of air around the aircraft upon indicators of altimeters and barometers.

QA911.M65 no. 427

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

GALLAY, M.L.,

~~GALLAY~~, M.L., and B.N. EGOROV.

Izmerenie temperatury narushnogo vozdukh v polete. (TSAGI. Trudy, 1939, no. 427 p. 6-8, diags.)

Title tr.: Measurements of outside air temperature in flight.

QA911.M65 no. 427

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

CALLAI, M.L.

Ob uluchshenii prodol'noi ustoiichivosti seriinykh samoletov. (Tekhnika
vazdushnogo flota, 1945, no. 4, p. 1-7, 17, diagrs., bibliography)

Title tr.: Improvement of longitudinal stability of airplanes produced
in series.

TI50h.T4 1945

SO. Aeronautical Science and Aviation in the Soviet Union. Library of
Congress, 1955.

GALLAY, M. L.

86.5-5/24

AUTHOR: Gallay, M. L., Col, Test Pilot, First Class, Hero of the Soviet Union, Candidate of Technical Sciences

TITLE: Takeoff and Landing of an Aircraft with a Bicycle Landing Gear (Vzlet i posadka samoleta s velosipednym shassi)

PERIODICAL: Vestnik Vozdushnogo Flota, 1957, Nr 5, pp. 27-34 (USSR)

ABSTRACT: A bicycle landing gear (Figure 1) consists of the two main struts, which are located under the fuselage, in the plane of the aircraft symmetry, and of two wing struts. The weight of the aircraft is usually distributed almost equally between the main struts. The wing struts are used to prevent the aircraft from banking when it moves on the ground. They carry only a very small part of the aircraft's weight. A bicycle landing gear has no tendency toward directional instability and spontaneous turns while moving on the ground. It has perfect visibility while taxiing. Its piloting is somewhat different. The control and the braking actions in an aircraft equipped with a bicycle landing gear are independent of one another. It follows that the braking may be of any strength, that a nonsynchronous adjustment of brakes or getting a wheel onto a slippery or wet section of the landing strip affect the direction of motion or the braking regime of the aircraft. In addition, a rotating front strut permits

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86-5-5/24

Takeoff and Landing of an Aircraft with a Bicycle Landing Gear (Cont.)

settling and maintaining the required radius of turn more precisely and makes easy the directional control of the aircraft at a side wind during takeoff on a landing run. An automatic increase of the attack angle during the takeoff run by means of the "squat" of the rear strut or the straightening of the front strut shortens the takeoff run distance and makes the takeoff independent of the action of the pilot. There is a diagram (Figure 2) showing the variation of the attack angle during the takeoff run of aircraft with a bicycle landing gear and an automatic increase for the takeoff. Attention should be directed to the fact that the attack angle of an aircraft with a bicycle landing gear cannot be controlled during the takeoff run up to the moment of takeoff and depends only on the design parameters of the aircraft. Aircraft of small and medium tonnage are sometimes equipped with a semi-bicycle landing gear. It is like a three-wheel landing gear whose nose wheel is left unchanged,

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86-5-5/24

Takeoff and Landing of an Aircraft with a Bicycle Landing Gear (Cont.)

while the main wheels are squeezed together and can be withdrawn into the fuselage as one carriage. The main wheels of these aircraft are displaced to the rear from the center-of-gravity farther than in the classic three-wheel landing system. The takeoff of an aircraft with a semi-bicycle landing gear differs from that of an aircraft with a bicycle landing gear. The former takes off in an ordinary way by lifting the nose wheel and creating a fore-and-aft angle during the takeoff run. There is a schematic drawing (Figure 3) showing the basic moments acting upon the aircraft in a longitudinal plane when the aircraft is moving on the ground with a lifted nose wheel. It is evident that the moments are created by a weight force, G , a lift force, Y , an aerodynamical resistance force, X , a lift force of the horizontal empennage, $Y_{p.o}$, and a thrust force of the power plant, P . When the aircraft moves on the ground in a side wind, there always appears the lateral aerodynamical force $Z = \frac{b}{h} (N_1 - N_2)$ (Figure 4) striving to overturn the

Card 3/4

aircraft to ~~overturn the aircraft~~

Takeoff and Landing of an Aircraft with a Bicycle Landing Gear (Cont.) 86-5-5/24

an-uneven distribution of the load on the left and right wheels of the landing gear (h is the distance between the point of application of the force and the ground, b is half of the track gauge of the landing gear, and N_1 and N_2 are the forces of the earth's reaction applied to the wheels). The reaction force of the earth appearing when the front landing strut touches the ground creates a moment about the center-of-gravity of the aircraft which favors the increase of the angle of attack. As a result, the lift force increases and the aircraft repeatedly leaves the ground. Such bouncing may become progressive. The pilot of an aircraft with a bicycle landing gear must pay special attention to make the landing on the rear strut or on both struts simultaneously. There is a schematic drawing (Figure 5) showing the position of the bicycle landing gear with respect to the earth's surface during the takeoff and landing. There are 5 figures.

AVAILABLE: Library of Congress

Card 4/4

SOV/86-58-10-23/40

AUTHOR: Gallyay, M.L., Col, Test Pilot First Class, Candidate
Of Technical Sciences, Hero of the Soviet Union

TITLE: Lateral and Directional Stability of Aircraft (Pope-
rechnaya i putevaya ustoychivost' samoleta)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 10, pp 49-53
(USSR)

ABSTRACT: A discussion and explanation of some stability phenom-
ena, especially of those which, the author states, are
often misunderstood. As soon as the aircraft changes
its direction of flight by the action of turbulent air,
the aerodynamic banking and yawing moments develop im-
mediately. The yaw is righted by the directional
stability. When flying in bumpy air, the overwhelming
majority of bank attitudes are not caused directly by
the turbulent air but are reactions to divergent mo-
tions. The lateral static stability is manifested by

Card 1/4

Lateral and Directional Stability (Cont.)

SOV/86-58-10-23/40

the appearance of a lateral moment which banks the aircraft in the direction contrary to the divergent motion. The lateral and directional stabilities are the main factors which affect the character of the lateral movement of the aircraft; the designer can, by controlling these stabilities, control the lateral movement efficiently. However, by making the lateral stability too effective, the aircraft may lose its good flying qualities: it would tend to bank excessively; this phenomenon has been often mistakenly understood as the manifestation of poor lateral stability. In multi-engine aircraft, as soon as an engine located on the wing stops working, the aircraft starts yawing; it continues **flying by** inertia in the same direction. There have been aircraft with a much too excessive, lateral stability, and therefore they tended to be unsafe; they banked very heavily and even turned upside down. To prevent this, not the ailerons but the rudder was used; it then removed the initial cause of

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Lateral and Directional Stability (Cont.)

SOV/86-58-10-23/40

banking. In aircraft with a "neutral" lateral stability, which is the desirable property in all aircraft, there is practically no banking in such cases of engine failure; the pilot then eliminates the yawing by adjusting the rudder trim tab. Excessive lateral stability is especially dangerous with turboprop engine aircraft because the propeller of a stopped engine develops a heavy drag (before its blades are feathered); a sharp bank can develop even when, at a moment of a raised thrust during power approach, the thrust fails to rise synchronously in all the engines of the aircraft. An increased directional stability is quite useful; it lowers, in a degree, the destabilizing effect of excessive lateral stability in cases where the value of the lateral stability itself cannot be lowered and also in the moments when the thrust fails to be symmetric. A high directional stability simplifies substantially the task of the pilot when he executes a turn since deviation from the correct attitude of the

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Lateral and Directional Stability (Cont.)

SOV/86-58-10-23/40

aircraft develops immediately a strong righting yawing moment. A high directional stability of the aircraft makes piloting more effective and flying safer.

Card 4/4

GALLAY, M., Geroy Sovetskogo Soyuz, zasluzhennyy letchik-ispytatel' SSSR

Test pilots. IUn. tekhn. 4 no.9:24-29 S '59.

(Airplanes--Flight testing)

(MIRA 12:12)

GALLAY, M.L., Geroy Soverskogo Soyuza, zasluženny letchikispytatel' SSSR,
kand.tekhn.nauk

Flying with uncomplete and uneven thrust. Vest.Vozd.Fl. no.3:53-60
Mr '60.

(MIRA 13:9)

(Airplanes--Aerodynamics)

GALLAY, M.

Beyond the sound barrier ("The lonely sky" by William
Bridgerman and Jacqueline Hazard. Reviewed by M.Gallay). IUn.
tekh. 4 no.1:42-44 Ja '60. (MIRA 13:5)
(Jet planes--Flight testing) (Bridgerman, William)
(Hazard, Jacqueline)

GALLAY, M. Geroy Sovetskogo *Soyuza*, zasluzhenny letchik-ispytatel' SSSR.

American pilot Everest's book ("The fastest man alive" by Frank
K. Everest). Reviewed by M. Gallai. *Grazhd.av.* 18 no.1:31 Ja '61.

(MIRA 14:3)

(Airplanes—Flight testing)
(Everest, Frank K.)

GALLAY, M.L.; VASIL'YEV, A.A., red.; MIKHLINA, L.T., tekhn. red.

[Piloting jet airplanes] Osobennosti pilotirovaniia reaktivnykh
samoletov. Moskva, Izd-vo DOSAAF, 1962. 195 p. (MIRA 16:2)
(Jet planes--Piloting)

GALLAY, Mark Lazarevich, Geroy Sovetskogo Soyuz, zasl. letchik-
ispytatel' SSSR; FEDCHENKO, V., red.; GRIGOR'YEVA, Ya.,
tekh. red.

[Through invisible barriers; from the notes of a test pilot]
Cherez nevidimye bar'ery; iz zapisok letchika-ispytatelya.
2. izd. Moskva, Molodaia gvardiia, 1962. 124 p.

(MIRA 15:8)

(Airplanes--Flight testing)

L 12901-63 EPR/EPA(b)/EWT(a), EWT(1)/FCC(w)/BDS AEDC/ANFIC/ASD/AFMCC/
 APGC Ps-l/Pd-l/Pg-l/Pk-l/Pa-l/Pa-l GG/WW/ZIP(G) S/0000/62/000/000/0001/0196
 ACCESSION NR: AM3001368

AUTHOR: Gallay, M. L.

TITLE: Osobennosti pilotirovaniya reaktivny*kh samoletov (Special features in piloting jet aircraft)

SOURCE: Osobennosti pilotirovaniya reaktivny*kh samoletov, Moskva, Izd-vo DOSAAF, 1962, 11, 12, 15, 92, 185, 190

TOPIC TAGS: aircraft control system, boundary-layer control, oscillation damper, cybernetic piloting unit

ABSTRACT: The following points of special interest are mentioned: 1) A number of designs for the control of a wing's boundary layer have been drawn up, and the first wind-tunnel and flight tests have given positive results. 2) The spontaneous oscillation of an aircraft at high altitudes is eliminated by an oscillation damper, which is part of the control system. The damper automatically compensates for aircraft oscillation, and pilot control is achieved with one motion of the controls. 3) The automatic electronic devices for simplifying controls already in use will be applied on a large scale, as will cybernetic piloting units. 4) The automatic devices are used on all modern jet engines to

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L 12901-63

ACCESSION NR: AM3001368

regulate the flow of fuel to the engines in response to speed changes initiated by the pilot with a "single jerk" of the throttles. 5) Experimental aircraft have attained speeds exceeding Mach 5. 6) Special equipment for rapid pressurized fueling of aircraft has been developed and is being introduced. Orig. art. has: 62 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 05Apr63

ENCL: 00

SUB CODE: AE

NO REF SOV: 003

OTHER: 002

Card 2/2

GALLAY, Mark Lazarevich, Geroy Sovetskogo Soyuz, Zasluzhennyy
letchik-ispytatel' SSSR; FEDCHENKO, V., red.; SAVEL'YEVA, V.,
tekh. red.

[Tested in the sky; continuation of the memoirs of a test
pilot, "Over invisible barriers."] Ispytano v nebe; pro-
dolzhenie zapisok letchika-ispytatelya "Cherez nevidimye
bar'ery." Moskva, Molodaia gvardiia, 1963. 267 p.

(MIRA 16:10)

(Airplanes--Flight testing)

KOTIK, Mikhail Grigor'yevich, kand. tekhn. nauk; PAVLOV, Aleksey
Vasil'yevich, inzh.; PASHKOVSKIY, Igor' Mikhaylovich,
kand. tekhn. nauk; SARDANOVSKIY, Yuriy Sergeyeovich, inzh.;
SHCHITAYEV, Nikolay Grigor'yevich, inzh.; GALLAY, M.L.,
kand. tekhn. nauk, zasl.letchik-ispytatel' SSSR, retsenzent;
KIRILLOV, Ye.A., inzh., retsenzent

[Flight testing of airplanes] Letnye ispytaniia samoletov.
Moskva, Mashinostroenie, 1965. 379 p. (MIRA 18:11)

GALLAY, Mark Lazarevich, Geroy Sovetskogo Soyuza, zasl. letchik-
ispytatel' SSSR; FEDCHENKO, V., red.

[Through invisible barriers. Tested in the sky; from the
notes of a test pilot] Cherez nevidimye bar'ery. Popytano
v nebe; iz zapisok letchika-ispytatelya. Moskva, Molodaia
gvardiia, 1965. 445 p. (MIRA 19:1)

ACC NR: AM6004547

Monograph

UR/

Gallay, Mark Lazarevich

Through invisible barriers. Tested in the sky; from the notes of a test pilot
(Cherez nevidimyye bar'yery. Ispytano v nebe; iz zapisok letchika-ispyta-
telya) Moscow, Izd-vo TSK VLSKM "Molodaya gvardiya", 65. 044 p.
100,000 copies printed.

TOPIC TAGS: pilot training, jet aircraft

PURPOSE AND COVERAGE: This book is an account on test pilots whose work is
very important for the perfection of aircraft. While writing about these
men, the author tries to limit the subject of aviation technology to a mini-
mum necessary for the understanding of the work of a test pilot. Unfortuna-
tely, the author never kept a diary on his flights and was forced to rely on
his memory. His reports contain some factual inaccuracies.

TABLE OF CONTENTS (abridged):

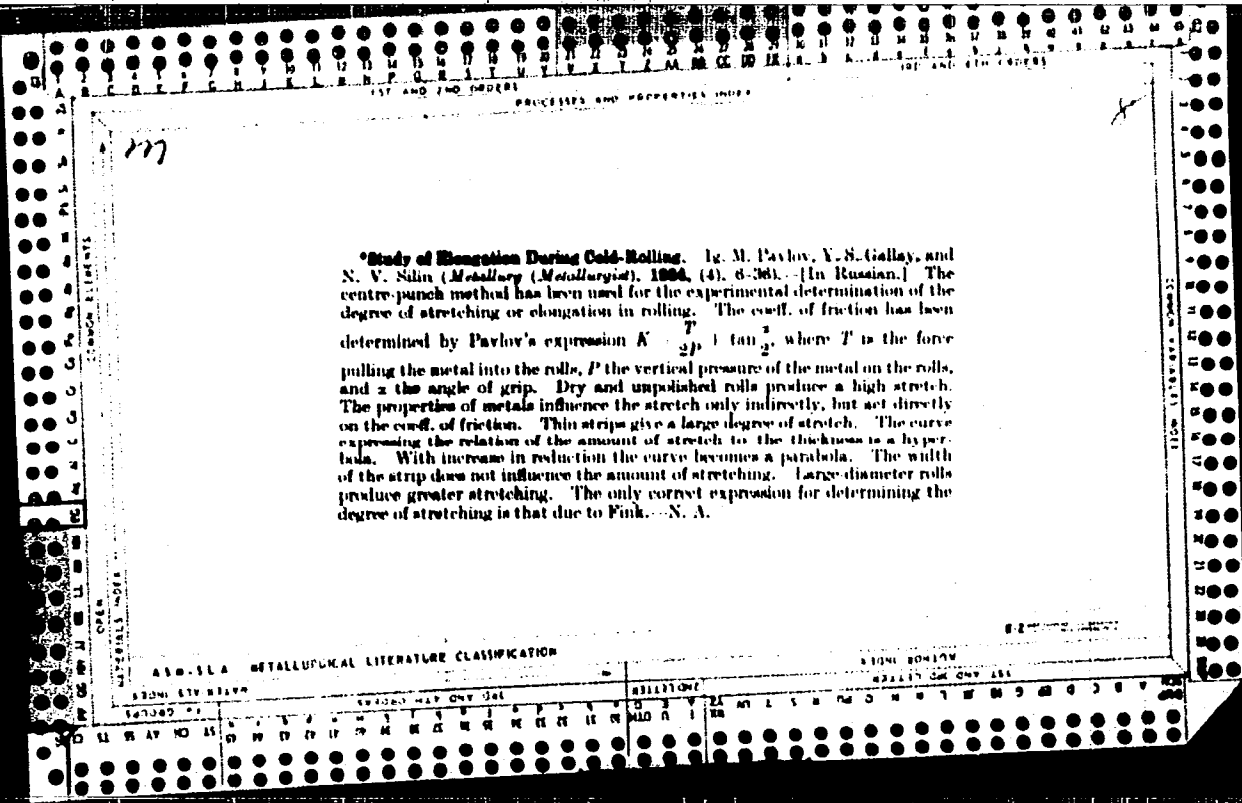
From the author -3
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ACC NR: AN6004547

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More about flying ethics -349
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SUB CODE: 05, 01 / SUBM DATE: 29 Mar 65

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PROCESSING AND PROPERTY INDEX

M

***The Influence of Lubrication on the Stretching of Metal During Rolling.**
 Ig. M. Pavlov and I. S. Galley. (*Metallurgy (Metallurgist)*, 1955, (7), 3-30).—
 [In Russian.] Compression tests on cylinders with a co-ordinate net indicate
 that the lubricant reduces the volume of the strained portion and consequently
 increases the deformation of the metal. The effect of lubrication on deforma-
 tion was determined by comparing the stretching of a lubricated, with that of
 a dry, strip. The width of the strip above 40 mm. has no influence on the
 effectiveness of the lubricant; with narrower strips the effect of the lubricant
 decreases with reduction in width. Lubrication increases the stretching of
 the metal by up to 100% for iron, somewhat less for brass and copper, and
 least for aluminium. The greater the fatty acid content of the lubricant, the
 greater is the stretching. The best oils, therefore, are the vegetable and
 animal oils (castor oil, hempseed oil, and lard), and the worst the mineral
 oils (engine oil, paraffin). The heavier the pressure and the more strongly
 the metal is hammered, the more effectively does the lubricant influence the
 stretching. When the strip is oiled only on one surface, it bends over towards
 the other. The investigation has demonstrated the practical importance of
 lubrication.—N. A.

METALLURGICAL LITERATURE CLASSIFICATION

620000 621000 622000 623000 624000 625000 626000 627000 628000 629000

630000 631000 632000 633000 634000 635000 636000 637000 638000 639000

640000 641000 642000 643000 644000 645000 646000 647000 648000 649000

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PROCESSES AND PROPERTIES INDEX

12

The Influence of Design and Surface Finish of the Rolls in the Hot-Rolling Stage on the Properties of Cold-Rolled Steel Strip. Ya. S. Gallyay and S. M. Lyubchanakiy. (Kachestvennaya Stal, 1937, No. 7, pp. 27-32). (In Russian). The authors examined the influence of surface defects in the billets, as well as that of defects in the design and surface finish of the rolls used in the hot-rolling stage of the rolling process in the production of steel strip for springs. An improvement was obtained by replacing the old square-rectangle-hexagon-oval-square-oval-square rolling sequence by a square-rectangle-square-rectangle-hexagon-square-oval-square sequence. Numerous photographs are used to illustrate defects arising out of irregularities in the surface of the original billets, as well as those due to faulty rolling caused by worn rolls.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

INDICES	INDICES
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

M

12

***Resistance to Deformation in the Cold-Rolling of Non-Ferrous Metals and Alloys.** Ig. M. Pavlov and J. S. Galjay. (*Metalurgy (Metallurgist)*, 1957, (3), 62-78).—[In Russian.] The resistance to deformation of metals during rolling is given by the expression $p = P/RV^2K(H - A)$, where P is the pressure of the metal on the rolls, R is the width of the strip, R the radius of the rolls, and H and A the thickness of the strip before and after rolling. The value of p increases

with increasing width of the strip up to 80 mm., but thereafter becomes practically constant. The absolute value of the deformation or of the elongation at a single pass does not affect p up to a total elongation of 2.5. For very thin and heavily deformed strips, p becomes, however, a function of the elongation; it increases with decreasing thickness of the strip, the equation $p = f(H)$ being a hyperbola. The dependence of p on thickness and on total elongation can be represented by the internal surface of a hyperbolic paraboloid. Lubrication causes a substantial decrease in p and in the number of passes required; in some cases both may be halved by the use of a suitable lubricant. The different lubricants may be arranged in increasing order of efficiency, thus: petrol, alkali, machine oil, castor oil. Curves are given showing the values of p in rolling copper, aluminium, Alclad, 62 : 38 and 68 : 32 brass, aluminium bronze, and iron-Tombac bimetal, with and without lubrication.—N. A.

65-554 METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

*Resistance of Alloys to Hot-Rolling. I. I. Metallurg and N. N. G. (Metallurg (Metallurgist)), 1967, (4), 115 (21). [In Russian.] In the rolling of aluminium-cadmium VV 1 alloy (copper 4.95, magnesium 0.98, manganese 0.97, silicon 0.43, iron 0.49, titanium 0.06%) heating of the rolls to 100° C, and lubricating them with wax has no effect on the specific resistance of the material to deformation. The width of the strip is also without influence if it exceeds 80 mm. The temperature of the material at the beginning of rolling must not exceed 450° C. The resistance to rolling is 10 kg. mm.² at 425° C, and 34 kg. mm.² at 350° C; it varies with the temperature according to the expression $p = 10.1 (495 - T)^{0.1}$. With increasing total deformation, the mean resistance for a pass increases, i.e. the thinner the strip the greater is its resistance. The resistance is a hyperbolic function of the thickness of the strip.—N. A.

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

PROCESS AND PROPERTIES INDEX

M

***The True Hardening of Metals by Cold-Working.** Ig. M. Pavlov and J. S. Galay (*Metallurg (Metallurgy)*, 1937, (7), 41-46). — (In Russian.) Cf. *Metal.* 1937, 4, 672. Measurements were made of the resistance to deformation of electrolytic copper (copper 99.95, antimony 0.003, arsenic 0.042, bismuth 0.002%) when passed between dry rolls and between rolls lubricated with kerosene, machine oil, and castor oil. Curves were drawn showing the force required to produce deformation after various reductions (0, 14.5, 30, 50, 79.5, 95.5%) had been given. The coeff. of friction (f) was also measured after different reductions, and, by extrapolating the curve so obtained to zero friction, it was possible to obtain the data necessary for the construction of the curve of resistance to deformation against amount of reduction for $f = 0$, i.e. the curve of "true" hardening by cold-work. The hardness of copper was found to increase from 21 to 77.7 kg./mm.² as a result of 70% reduction by cold rolling.—N. A.

131 AND 130 ORDERS

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PROCESSES AND PROPERTIES INDEX

18

***Influence of Lubricant on the Broadening of Rolled Strip.** I. M. Pavlov and J. S. Galay (*Metallurg (Metallurgy)*, 1967, (9/10), 107-111). [In Russian.] The rolling of beam specimens with dry rolls and with rolls lubricated by castor oil showed that, for a given degree of reduction, the curve showing the broadening of the strip in relation to its width lies lower for lubricated rolls than for dry ones. The narrower the strip the greater is the decrease in broadening effected by lubrication.—N. A.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX	2ND AND 3RD ORDERS	1ST ORDER	ATTACHED
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ BA BB BC BD BE BF BG BH BI BJ BK BL BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ CA CB CC CD CE CF CG CH CI CJ CK CL CM CN CO CP CQ CR CS CT CU CV CW CX CY CZ DA DB DC DD DE DF DG DH DI DJ DK DL DM DN DO DP DQ DR DS DT DU DV DW DX DY DZ EA EB EC ED EE EF EG EH EI EJ EK EL EM EN EO EP EQ ER ES ET EU EV EW EX EY EZ FA FB FC FD FE FF FG FH FI FJ FK FL FM FN FO FP FQ FR FS FT FU FV FW FX FY FZ GA GB GC GD GE GF GG GH GI GJ GK GL GM GN GO GP GQ GR GS GT GU GV GW GX GY GZ HA HB HC HD HE HF HG HH HI HJ HK HL HM HN HO HP HQ HR HS HT HU HV HW HX HY HZ IA IB IC ID IE IF IG IH II IJ IK IL IM IN IO IP IQ IR IS IT IU IV IW IX IY IZ JA JB JC JD JE JF JG JH JI JJ JK JL JM JN JO JP JQ JR JS JT JU JV JW JX JY JZ KA KB KC KD KE KF KG KH KI KJ KL KM KN KO KP KQ KR KS KT KU KV KW KX KY KZ LA LB LC LD LE LF LG LH LI LJ LK LL LM LN LO LP LQ LR LS LT LU LV LW LX LY LZ MA MB MC MD ME MF MG MH MI MJ MK ML MN MO MP MQ MR MS MT MU MV MW MX MY MZ NA NB NC ND NE NF NG NH NI NJ NK NL NM NO NP NQ NR NS NT NU NV NW NX NY NZ OA OB OC OD OE OF OG OH OI OJ OK OL OM ON OO OP OQ OR OS OT OU OV OW OX OY OZ PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO PP PQ PR PS PT PU PV PW PX PY PZ QA QB QC QD QE QF QG QH QI QJ QK QL QM QN QO QP QQ QR QS QT QU QV QW QX QY QZ RA RB RC RD RE RF RG RH RI RJ RK RL RM RN RO RP RQ RR RS RT RU RV RW RX RY RZ SA SB SC SD SE SF SG SH SI SJ SK SL SM SN SO SP SQ SR SS ST SU SV SW SX SY SZ TA TB TC TD TE TF TG TH TI TJ TK TL TM TN TO TP TQ TR TS TT TU TV TW TX TY TZ UA UB UC UD UE UF UG UH UI UJ UK UL UM UN UO UP UQ UR US UT UU UV UW UX UY UZ VA VB VC VD VE VF VG VH VI VJ VK VL VM VN VO VP VQ VR VS VT VU VV VW VX VY VZ WA WB WC WD WE WF WG WH WI WJ WK WL WM WN WO WP WQ WR WS WT WU WV WW WX WY WZ XA XB XC XD XE XF XG XH XI XJ XK XL XM XN XO XP XQ XR XS XT XU XV XW XX XY XZ YA YB YC YD YE YF YG YH YI YJ YK YL YM YN YO YP YQ YR YS YT YU YV YW YX YY YZ ZA ZB ZC ZD ZE ZF ZG ZH ZI ZJ ZK ZL ZM ZN ZO ZP ZQ ZR ZS ZT ZU ZV ZW ZX ZY ZZ			

12

Resistance to Deformation in Cold-Rolling. I. M. Pavlov and Y. S. Gal'ax. (Metallurgist, Russia, 1937, vol. 12, No. 3, Mar., pp. 62-70). (In Russian). The authors determine the resistance to deformation (P) by cold-rolling from the formula

$$P = pB^2/R(H - h)$$

where p is the pressure of the metal on the rolls as found from direct measurement; R the radius of the rolls; B the width of the strip before and after rolling; H and h are the thickness of the strip before and after rolling. It is shown that P is independent of B for values of $B < 6$ cm., and of $(H-h)$ up to a total elongation of 250-300%. Where deformation is very heavy as in the case of very thin strip, p increases hyperbolically with increasing values of $(H-h)$. Lubrication causes a marked decrease in P , the efficacy of the following lubricants rising in the order: Petrol, alkali, machine oil, castor oil. The calculation of resistance to deformation is discussed for examples both with and without lubrication and it is shown that for a given reduction the number of passes may be reduced by half if the correct

lubricant is employed. Non-ferrous metals were employed for these investigations.

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CP

The rolling of Armeo iron. Ya. S. Galai and M. I. Zlotnikov. *Metallurg* 13, No. 5, 51-60(1938); *Chem. Zentr.* 1938, II, 4119-20.—Expts. on the rolling of Armeo iron (C 0.04, Mn 0.03 and Si 0.03%) showed that red-shortness appears in the temp. interval 800-1150°. A uniform preheating to 1250-1350° is indispensable. In order to prevent cracking at the edges the rolling process should not be interrupted during cooling and the O₂ content should be kept as low as possible (not greater than 0.005%). In cold-rolling from 2.5 to 0.4 mm. or from 0.4 to 0.1 mm. the metal should be passed through the rolls 5 times. The intermediate and final annealing temps. should be 700° and 760°. M. G. Moore

1ST AND 2ND ORDERS

DETALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

1ST AND 2ND ORDERS

12

PROCESSING AND PRESERVATION

Choice of Lubricants for Cold-Rolling of Metals and Alloys. I. M. Pavlov and Ya. S. Galay. (Kachestvennaya Stal, 1938, No. 2, pp. 34-42). (In Russian). By way of introduction the authors summarise the functions of a lubricant during rolling and review its desirable properties. The laboratory investigation took the form of a study of a large number of lubricants, the effect of their use during rolling on the specific pressure and the elongation of the material, the effect of different metals, the effect of additions of free fatty acids and of vegetable oils to the lubricants, the possibility of using mixtures of machine oil and paraffin oil, corrosion tests in various lubricants and, finally, a study of the behaviour and the effect of lubricants during annealing. Steel (with carbon 0.09%) was used in the majority of the experiments, while some experiments were also conducted on brass, copper and aluminium.

METALLURGICAL LITERATURE CLASSIFICATION

62000	62001	62002	62003	62004	62005	62006	62007	62008	62009	62010	62011	62012	62013	62014	62015	62016	62017	62018	62019	62020	62021	62022	62023	62024	62025	62026	62027	62028	62029	62030	62031	62032	62033	62034	62035	62036	62037	62038	62039	62040	62041	62042	62043	62044	62045	62046	62047	62048	62049	62050	62051	62052	62053	62054	62055	62056	62057	62058	62059	62060	62061	62062	62063	62064	62065	62066	62067	62068	62069	62070	62071	62072	62073	62074	62075	62076	62077	62078	62079	62080	62081	62082	62083	62084	62085	62086	62087	62088	62089	62090	62091	62092	62093	62094	62095	62096	62097	62098	62099
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PROCESSES AND PROPERTIES INDEX

Elastic Deformation of Rolling-Mill Rolls. I. M. Pavlov and
 Yu. S. Gallya. (Metallurg, 1938, No. 10, pp. 68-70). (In Russian).
 The authors review previous work on the bending of rolls and
 consider the various expressions arrived at for the magnitude of
 the elastic deformation. These formulae are generally too involved
 for practical use. For practical purposes the authors derive the
 following expression for the deflection of the rolls :

$$f = \frac{nPP}{384 \times E \times I}$$

where *P* is the pressure, *E* the modulus of elasticity of the material,
I the effective length of the roll between the bearings, *l* the moment
 of inertia of the rolls and *n* a coefficient depending on the ratio of
 the width of the strip to the length *l* of the rolls. Using a special
 apparatus, the measured deflection of the rolls was found to agree to
 within 5-10% with the results calculated from the above formula.
 The formula should be useful for calculations in connection with the
 cambering of rolls.

METALLURGICAL LITERATURE CLASSIFICATION

IRON SMELTING

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX

ELASTIC COMPRESSION OF ROLLING-MILL ROLLS. I. M. Pavlov and Y. S. Gallyay. (Metallurg, 1938, no. 1, pp. 79-86). (In Russian).
 Earlier literature on the radial compression of rolls is first briefly considered and a method of directly measuring the radial compression of rolls is developed. The deformation of rolls pressed into contact is then determined by measuring the width of the imprint on the lower roll made by the upper roll which was coated with soot. Both static and dynamic experiments were performed to investigate the deformation of the rolls when a strip of uniform thickness was placed or rolled between them. In the latter case it was found that lateral spreading of the strip was confined to its edges owing to their greater reduction in thickness due to the radial compression of the rolls. There is parabolic relation between pressure and the radial compression of the rolls. Every-thing which tends to increase the pressure on the rolls will cause an increase in the irregularity of the lateral distribution of the re-duction in thickness. This irregularity is reduced by rolling annealed metal and by using small reductions per pass, polished rolls and

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

SIGNATURE

DATE

NO.

777

Chromium-Plating of Steel-Mill Rolls. *Va. Galina (Nevskii Tekhnika (Tech. News), 1968, (10), p 10; C. Abt., 1968, 32, 6883).* [In Russian.] The rolls are polished, washed with petrol, and several times with hot water. They are then chromium-plated at 45-47° C. in chromic acid 250 gm./litre and sulphuric acid 2-2.6 gm./litre at 15 amp./in.². The thickness of chromium should be 0.02 mm. After plating, the roll should be heated to 150° C. Chromium-plated rolls have twice the wear resistance of ordinary rolls. S. G.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

13

Lignoston bearings for rolling mills. Ya. S. Gallai. *Stal* 9, No. 4-5, 45-9 (1939); *Chem. Zentr.* 1939, II, 1108.

Lignoston is produced as follows: birch wood contg. 12-14% moisture is steeped in 20% glucose for 3 hrs. at 6 atm. and 80-90°, pressed under 30-80 kg. sq. cm., heated to 80-100°, pressed again under 350 kg. sq. cm. (10-20°), and slowly cooled to 50°. *Lignofol* is a plywood impregnated with bakelite. The following properties are reported for Lignoston and Lignofol resp.: resistance to compression 700-1000 and 1300-1700 kg. sq. cm.; coeff. of friction 0.003-0.005 and 0.003; sp. gr. 1.35 and 1.36-1.4; impact resistance (notched-bar test) 2.4-4.7 and 21-8 cm. kg. sq. cm.; and capacity to absorb water 0 and 0.2%. Comparative tests on Textolite, Lignoston and Lignofol showed the following advantages and disadvantages of the 2nd two products over the first: a greater capacity for absorbing water and lubricants, greater capacity for swelling at temp. above 100°, and lower resistance to compression. Lignofol has all the advantages of Lignoston without its disadvantages. M. G. M.

ASME S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSING AND PROPERTIES INDEX

12

Lignostone Bearings for Rolling Mills. Ya. Galloy, (Stal. 1930, No. 4-5, pp. 45-59). (In Russian). Lignostone is made by drying birchwood to a moisture content of 12-14% and then impregnating it under pressure at 80-90° C. with 20% glucose solution. This is followed by several pressings and heat treatments. Finally the glucose with which the wood is impregnated is caramelized by heating the material to 105° C. under a pressure of 80-100 kg. per sq. cm. Lignostone was developed as a substitute for textile-reinforced bakelite for use in rolling-mill bearings. Lignofol (plywood impregnated with bakelite) is another material developed for the same purpose. The physical properties of these two materials are described and the design of bearings, the lubrication and the results of works tests are dealt with. As compared with fabric-reinforced bakelite, lignostone has a much lower loading limit (75 kg. per sq. cm. as compared with 250-300 kg. per sq. cm.); it has a tendency to swell at temperatures above 100° C. Lignofol, on the other hand, is equivalent to fabric-reinforced bakelite, and it is a cheaper material.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

GALLAI, IAKOV SAMUILOVICH

Author: Gallai, Iakov Samuilovich

Title: The lignitiferrous bearings. The Principles of Construction
and exploration. (Lignofolevye i lignostonovye podshipniki) 48 p.

City: Sverdlovsk

Publisher:
~~Издательство~~ State Scientific and Technical Publication.

Date: 1946

Available: Library of Congress

Source: Monthly List of Russian Accessions, Vol. 3, No. 12, p. 838

GALLAY, Ya. S.

PA 18T34

USSR/Wire - Drawing
Metallurgy

May 1947

"The Theory of Multiple-drawn Wire by Sliding," Ya.
S. Gallay, 6 pp

"Stal'" Vol VII, No 5

The theory of multiple-drawing of wire has noticeably supplemented and improved the accepted formula for designing draw plates. Also permitted the establishment of a standard process and the greatest expansion of diapason of the gage of the wire-drawing machinery. Diagrams and formulae.

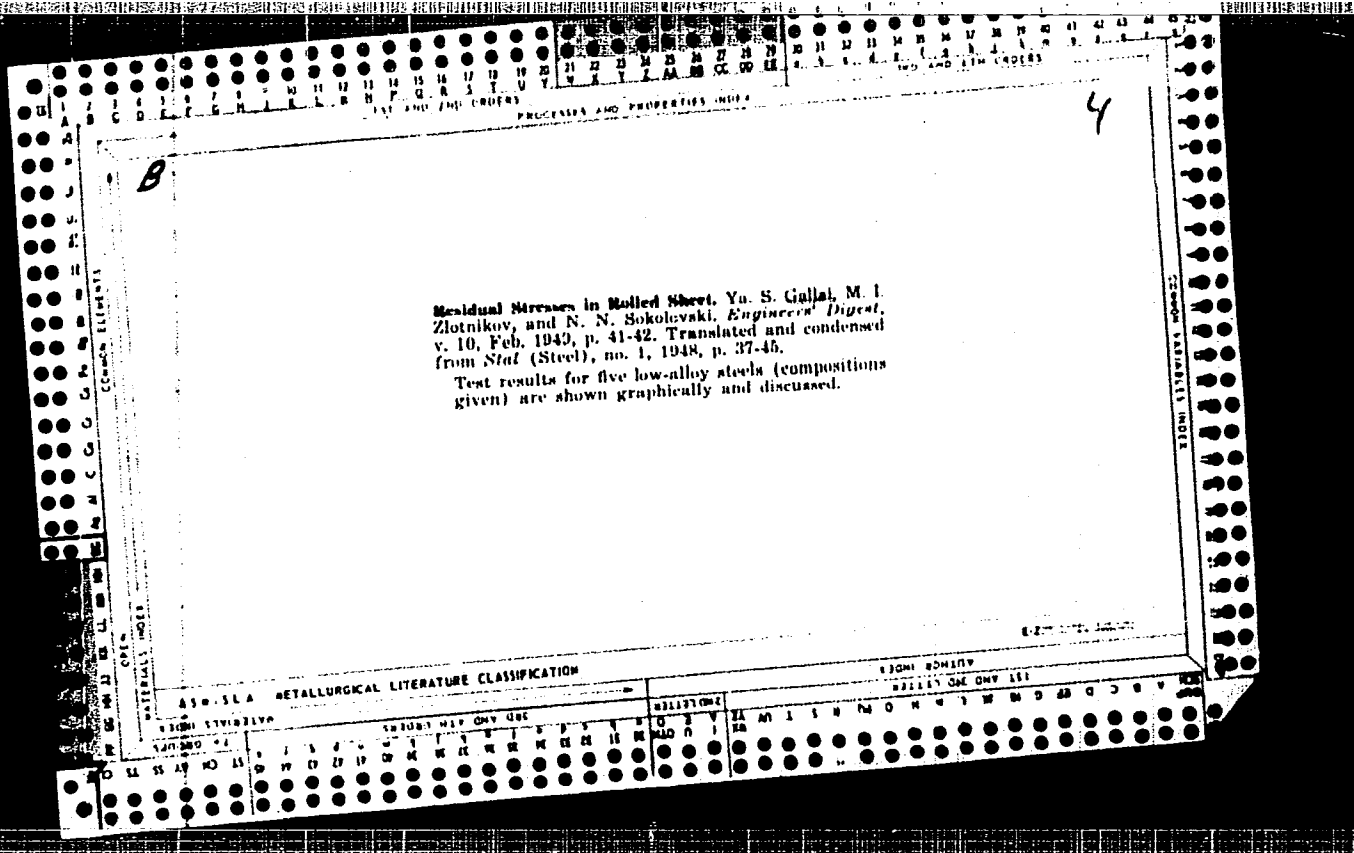
18T34

11.11.11, Y. Nov. 1953

Materially to tvorili volnutki; pod rot, 1 s nach, volnuchanizatsiya
E.Y. Perlova, Moskva, 1953 1 v. diagrams. (Data on the theory of rolling.)

FILE: 103/0.10

SI: Manufacturing and Mechanical Engineering in the Soviet Union,
Library of Congress, 1953.



5/

CA

Methods of testing of the water and oil absorption of wood plastics. Ya. S. Gullaf and M. A. Rudyk (Leningrad Politek. Inst. i Kóistrúktóorskoe Byuro Gódrómotakh). Závódschaya Lab. 14, 040 53(1948).—A sample 15 × 15 × 15 mm. of plastic DSP was tested for H₂O absorption with neutral H₂O at 50° for 6 days. Oil absorption and swelling were detd. by using dehydrated oil at 50° for 40-60 days. The effects of temp. and of acid and alkali addns. to the H₂O are reported. 0.1% NaOH increasing absorption slightly and 0.01% H₂SO₄ somewhat more at 20°. Marshall Sutig

GALLAY, Ya. S.

Gallay, Ya. S. - "The treatment of high carbon steels from rolling heat," Sbornik nauch.-tekhn. rabot (Vsesoyuz. nauch. inzh.-tekhn. o-vo metallurgov, Leningr. otd-niye), Issue 1, 1949, p. 179-86

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

GALLAY, Ya.S., dotsent.

The use of wood plastics in the textile industry. Tekst.prom.
16 no.2:55-59 F '56. (MLRA 9:5)
(Textile machinery) (Wood) (Metals, Substitutes for)

GALLAY, YAKOV SAMUILOVICH.

PHASE I BOOK EXPLOITATION

601

Pavlov, Igor Mikhaylovich, Gallay, Yakov Samuilovich, and Astakhov, Ivan Gerasimovich

Rukovodstvo k uchebnomu laboratornomu praktikumu po prokatke (Manual for a Laboratory Course in Rolling-Mill Processes) 2d ed., rev. Moscow, Metallurgizdat, 1957. 5,000 copies printed.

Ed.: Golyatkina, A. G.; Tech. Ed.: Attopovich, M. K.

PURPOSE: The book is intended for students of metallurgical vuzes and for students in other fields taking a laboratory course in "Metal Working by Pressure".

COVERAGE: The book discusses the methods of conducting a laboratory course in metal rolling and roll-design (except pre-rolling). Basic theoretical information is given and necessary measuring devices and instruments are described. The work assignments in this manual are coordinated with the following text books:

Card 1/12

Manual for a Laboratory (Cont.)

601

1. Pavlov, Ig. M. The Theory of Rolling and Fundamentals of Plastic Deformation, 2nd edition, Metallurgizdat, 1938.
2. Pavlov, Ig. M. - The Theory of Rolling (General Principles of Metal Forming by pressure). Metallurgizdat, 1950.
3. Bakhtinov, B. P. and Shternov, M. M., Pass Design on Mill Rolls. Metallurgizdat 1953. There are no references.

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| 3. State of rolling-mill training laboratories in the USSR today | 13 |
| 4. Methods of teaching in rolling-mill training laboratories | 18 |

Card 2/12

2/11/57
GEL'FAND, Feliks Vul'fovich; AL'SHITS, Isaak Yakovlevich, kandidat
tekhnicheskikh nauk; GALLAY, Ya S. redaktor; ARKHANGEL'SKAYA, M.S.,
redaktor izdatel'stva; ~~EVANSON~~, I.M., tekhnicheskii redaktor.

[Plastic-coated bearing] Podshipniki, oblitsovannye plastmassoi.
Moskva, Gos.nauchno-tekhn.isd-vo lit-ry po cherno i tsvetnoi
metallurgii, 1957. 94 p. (MIRA 10:11)

1.Zavod "Krasnyy Vyborshets."
(Bearings (Machinery))

BEL'SKIY, B.M. [deceased]; BUR'YANOV, V.F.; VASIL'YEV, Ye.P.; VITKINA, E.I.;
GALLAY, Ya.S.; LEVIN, G.I.; MAFVBYEV, Yu.M.; CHELYUSTKIN, A.B.;
ROKOTYAN, Ye.S., red.; ISTOMIN, A.B., red.; GHOZIN, V.I., red.;
NEPOMNYASHCHIY, N.I., red. izd-va; KARASEV, A.I., tekhn. red.

[Ferrous metallurgy in capitalistic countries] Chernaya metallurgiya kapitalisticheskikh stran. Pt.4. [Rolling mill production] Prokatnoe i trubnoe proizvodstvo. Bel'skii, B.M. and others. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. 1958. 627 p. (MIRA 11:7)

1. Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

(Forging) (Rolling (Metalwork)) (Pipe, Steel)

GALLAY, Ya.S., dots.

"Rolling mill practices" by IU.M.Chizhikov. Reviewed by L.A.S.
Gallai. Izv.vys.ucheb.zav.; chern.met. 2 no.6:167-166
Je '59. (MIRA 13:1)

1. Severo-Zapadnyy zaachnyy politekhnicheskii institut.
(Rolling (Metalwork)) (Chizhikov, IU.M.)

18.0000

301/11-22-10-16/39

AUTHOR: Gallay, Ya. S. (Docent)

TITLE: Review of the book "Rolling Production" by Chizhikov, Yu. M., Second Revised and Amplified Edition, Metallurgizdat, 1958, 612 pp, 360 figures

PERIODICAL: . Stal', 1959, Nr 10, pp 935-936 (USSR)

ABSTRACT: The reviewed book is recommended as a handbook for metallurgical schools but may also be of use to students of higher learning and to engineers.

ASSOCIATION: North Western Correspondence Polytechnic Institute (Sev.-Zap. zaochnyy politekhnicheskiy institut)

Card 1/1

S/137/60/000/011/016/043
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No.11, p.116, # 26131

AUTHOR: Gallay, Ya.S.

TITLE: On the Friction Coefficient in Rolling

PERIODICAL: Tr. Mezhevuz. nauchno-tekhn. konferentsii na temu: "Sovrem.dostizh. prokatn. proiz-va", Vol. 2, Leningrad, 1959, pp. 391 - 392

TEXT: Simultaneously with investigations of the magnitude of friction forces in rolling, the problem is set on the necessity of continuing the study of physical phenomena occurring at the contact surface (the process of destruction and impression of scale, etc). These phenomena affect considerably the nature of the distribution of friction forces, the quality of the rolled stock surface, and the wear of the rolls. ✓

B.Sh.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

Yakov, Samuilovich Galley

PHASE I BOOK EXPLOITATION SOV/4420

Materialy po teorii prokatki, ch. VI (Materials on the Theory of Rolling, Pt. 6)
Moscow, Metallurgizdat, 1960. 496 p. 3,250 copies printed.

Compiler: Yakov Samuilovich Galley, Docent; Ed.: Ig. M. Pavlov, Corresponding
Member, Academy of Sciences USSR; Ed. of Publishing House: L.M. Gordon; Tech. Ed.:
M.K. Attopovich.

PURPOSE: This book is intended for scientific research workers, aspirants, and
technical personnel of metallurgical and machine-building plants. It may also
be of use to students of schools of higher technical education and tekhnikums.

COVERAGE: This is part six of a multivolume series covering materials pub-
lished from 1933 through 1956 in the Soviet Union and other countries on the
theory of rolling of metals and on the results of experimental investigations of
certain problems connected with this process. Part six contains materials pub-
lished in the period 1946 - 1956 on the kinetics of metals in cold and hot roll-
ing, forces acting between the work and the rolls, distribution of pressure over
the arc of contact, effect of the speed of rolling on deformation resistance,
elastic deformation of a mill caused by pressure of rolling, consumption of

Card 1/8

Materials on the Theory of Rolling, Pt. 6

SCV/4420

energy, determination of torque, and on the influence of rolling speed and temperature on energy consumption. No personalities are mentioned. There are 362 Soviet and non-Soviet references listed by chapters.

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