

L 1060-66 EWT(m)/EPT(e)/EWP(t)/EWP(b) IJP(e) JD

ACCESSION NR: AE9006995

S/0275/65/000/001/B008/B008

539.293:546.19:651

SOURCE: Ref. zh. Elektronika i yeye primeneniye. Sv. t., Abs. 1 B57

AUTHOR: Maydanovskaya, L. G.; Kirovskaya, I. A.

TITLE: Hydrogen adsorption by GaAs alloy

CITED SOURCE: <sup>v1</sup> Tr. Tomskogo un-ta, <sup>v1</sup> v. 157, 1963, 94-98

TOPIC TAGS: hydrogen adsorption, gallium arsenide hydrogen adsorption

TRANSLATION: Hydrogen adsorption by GaAs at initial pressures of 0.0554-1.502 torr at temperatures of -186 +700C was studied. The isobars obtained reveal two types of adsorption. Adsorption heat values within -160-0C were determined; they are of the order of 1 kcal/mol. Coverability of the adsorbent by hydrogen is calculated. Connection between the electrical and adsorption properties of the substances having identical types of the crystal lattice is discussed.

SUB CODE: GP, EG

ENCL: 00

Card 1/1 DP

AKHIBABIAN, A., Kabi. tekhn. nauk; DYABLO, S.; KIRKORIAN, M.; ISHLYAN, O.

Microcircuit in the technology of manufacturing parts of the fuel system. Mor. flot 25 no. 9:30-31 (1965. (p. 11-12:9)

ANCHEV, N. [Anchev, N.]; KRYSTEW, W. [Kristew, V.]; KIROV, S. [Kirov, S.]

Excision of peristernal lymph nodes and some principles in the surgical management of breast cancer. Novotvory iz oblasti 1933 0-2 1964

I. Z. Hunkov-Brikanovogo Institut za Onkologija, Sofia, Bulgaria.  
(Direktor: prof. dr. N. Anchev [N. Anchev]).

S/136/63/000/003/002/004  
E193/E383

**AUTHORS:** Kirpa, I.G., Kolesnikov, N.P., Pankin, V.A. and Shishkin, Yu.A.

**TITLE:** Investigation of the energy and force parameters in the rolling of aluminum-clad copper

**PERIODICAL:** Tsvetnyye metally, no. 3, 1963, 60 - 65

**TEXT:** The experimental specimens consisted of copper plates, 320 - 570 mm wide and 414 - 560 mm long, enclosed between two slightly larger aluminum plates, the whole assembly being held together by two rivets. Four types of the sandwich were used in the tests with an Al-Cu-Al thickness ratio of 2.56:9.7:2.56 mm, 1.4:9.7:1.4 mm, 2.56:5.75:2.56 mm and 1.4:5.75:1.4 mm. The cold-rolling experiments were conducted on a four-high reversible stand 2840 with working and backing rolls of 620 and 1 370 mm in diameter respectively. Formation of bond between the sandwich components was ensured by giving it a reduction of 65 - 75% in one pass. In a few cases the same reduction was attained in two passes. The following parameters were determined in each experiment: roll pressure; current in the main motor; voltage in the main motor; Card 1/2

Investigation of ....

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driving current; main motor speed; temperature of the metal after rolling. The strength of the bond between the Cu core and Al cladding was determined by bending tests; in addition, tensile tests were conducted on test pieces cut from each specimen.

Conclusions: 1) the maximum roll force recorded was 1 140 tons, i.e. 33% of the force permissible for the stand 2840. 2) The roll force under conditions of steady rolling was 950 tons.

3) The average roll pressure varied between 25.4 and 48.1 kg/mm<sup>2</sup>.

4) Comparison of the experimental data with values calculated from several known formulas showed that the formula due to Rokotyan gave results in closest agreement with the experiment.

5) The strength of bond and the mechanical properties of the final product were not significantly changed by effecting the required reduction in thickness in two instead of in one pass.

This means that a wider range of the existing rolling equipment can be used for the fabrication of Al-clad Cu. There are 3 figures and 4 tables.

Card 2/2

ACCESSION NR: AP4037201

S/0125/64/000/005/0080/0082

AUTHOR: Kirpa, I. G. (Engineer, Moscow); Barbanel', R. I. (Candidate of technical sciences, Moscow); Stoklitskiy, L. I. (Engineer, Moscow)

TITLE: Experience with manufacturing heat exchangers by cold roll welding

SOURCE: Avtomaticheskaya svarka, no. 5, 1964, 80-82

TOPIC TAGS: welding, aluminum welding, roll welding, cold roll welding, aluminum evaporator welding, aluminum condenser welding, refrigerator heat exchanger welding

ABSTRACT: Until a short time ago, refrigerator evaporators were manufactured from stainless steel by stamping half-channels in two blanks and subsequently resistance-welding them together along the channel contours. This method involved much labor and required large amounts (5 kg of 1Kh18N9 steel per evaporator) of steel "containing highly critical nickel." Condensers were

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ACCESSION NR: AP4037201

manufactured from "critical copper tubing." A "new" process for manufacturing evaporators and condensers is described in which two aluminum blank sheets with a masking pattern on one of them are cold-roll-welded together, and the channels are subsequently blown by 80-100-atm water pressure; the aluminum surfaces to be-welded are roughened by metal brushing. A one-shot reduction of 75% and a pressure of 20-25 kg/mm<sup>2</sup> were used in rolling the sheets on a two-high mill with 600-mm rolls and a rolling speed of 0.5 m/sec. Welds strengthened by annealing at 500C for 1.5 hours could stand a test pressure of 25-55 atm. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 25Jan64

DATE ACQ: 05Jun64

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 000

Card 2/2

L 36064-66 EXT(m)/EWP(v)/T/EWP(+)/FTT/EWP(k) LIP(s) ID/EM/HW/IH  
ACC NR: AP6007781 (N) SOURCE CODE: UR/0136/66/000/002/0074/0079

AUTHOR: Kirpa, I. G.

62  
B

ORG: none

TITLE: Effect of the conditions of deformation and heat treatment on the quality of the welding of aluminum tube sheets

SOURCE: Tsvetnyye metally, no. 2, 1966, 74-79

TOPIC TAGS: aluminum, cold welding, metal tube, heat exchanger, weld evaluation, metal heat treatment/AD1 aluminum, AD1M aluminum

ABSTRACT: The quality of the aluminum tube banks used in heat exchangers is influenced by the basic conditions of the cold rolling (i.e. cold welding) and heat treatment of the aluminum strips used in the fabrication of these tube banks. Accordingly, the author investigated this influence for sheets of AD1 and AD1M aluminum. Al specimens 1.5, 2, 3 and 4 mm thick were cold-rolled (cold-welded) into tube sheets 3, 4, 6 and 8 mm thick in a two-high mill on varying the degree of deformation from 14 to 25, 50, 60 and 70%, with subsequent heat treatment (annealing) at 150, 300, 400, 450 and 500°C for 1, 1.5, 3. 5 and 24 hr. For purposes of comparison, some of the specimens were hardened prior to their rolling. The pressure of the metal on the rolls was measured with the aid of dynamometers and strain gauges. The tenacity of the cold welding (cold rolling) was tested by three methods: tearing,

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UDC: 669.715-462:539.5



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ACC NR: AP6007781

kg/mm; breaking,  $\text{kg/mm}^2$ , and rupture of channels by hydraulic pressure, atm.  
Findings: a satisfactory tenacity of the cold welding is achieved when the degree of deformation is ~60 or 70% and the subsequent annealing temperature is  $500^\circ\text{C}$  for 1.5hr. In addition, it was established that the tenacity of the cold welding is virtually independent of the rolling rate, within the range investigated (0.04 to 1.57 m/sec). On the other hand, this tenacity is affected by the roll diameter, increasing somewhat with increasing roll diameter -- this is clearly attributable to the increase in the unit pressure of the metal on the rolls, which is also the reason why thicker tube sheets (4+4 mm) display a greater welding tenacity than thinner sheets (1.5+1.5 mm). The most decisive factor, however, is the presence of a layer of oxides at the surface of the aluminum, which cannot be completely eliminated by prior cleaning with mechanical rotary brushes; these oxides absorb moisture from the air and form  $\text{Al}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$  and they adversely affect welding tenacity; this may be remedied by reducing to a minimum the time between cleaning and rolling and by pickling the sheets prior to their annealing. Orig. art. has: 5 figures and 1 table.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 007

Card 2/2 vmb

POYARKOV, M.F., prof., doktor tekhn.nauk; KALININ, N.F., dotsent; BOCHAROV,  
V.I., dotsent, kand.tekhn.nauk; MIRPA, I.I., inzh.

"Electric power supply of industrial enterprises" by A.A.Fedorov.  
Reviewed by M.F.Poiarkov and others. Prom.energ. 16 no.6:52-53  
Ju '61. (MIRA 15:1)

(Electric power distribution)

GREYSUKH, M.V.; YERMILOV, A.A.; ZALESSKIY, Yu.Ye.; KAZYMOV, A.A.;  
KATSEVICH, L.S.; KIRPA, I.I.; KIREYEV, M.I.; KNYAZEVSKIY,  
B.A.; KOFMAN, K.D.; KRZHAVANIK, L.V.; KUZNETSOV, P.V.;  
MOROZOV, K.S.; RAKOVICH, I.I.; RYABOV, M.S.; SVENCHANSKIY,  
A.D.; SOKOLOV, M.M.; SYCHEV, L.I.; TVERDIN, L.M.; KHEYFITS,  
M.E.; SHULIMOV, Ye.V.; EPSHTEYN, L.M.; SHCHEGOL'KOV, Ye.I.;  
TSAPENKO, Ye.F.; FEDOROV, A.A., glav. red.; SERBINOVSKIY, G.V.,  
red.; BOL'SHAM, Ya.M., red.; BRANDENBURGSKAYA, E.Ya., red.;  
TVERDIN, L.M., red.; FRIDKIN, L.M., tekhn. red.

[Handbook for power engineers of industrial enterprises in  
four volumes] Spravochnik energetika promyshlennykh pred-  
priyatii v chetyrekh tomakh. Moskva, Gosenergoizdat.  
Vol.2. [Electric-power supply (conclusion), use of electric  
power and electrical equipment in some branches of industry]  
Elektrosnabzhenie (okonchanie), priemniki elektroenergii i  
elektrooborudovanie nekotorykh otraslei promyshlennosti. Pod  
obshchei red. A.A.Fedorova (glav. red.), G.V.Serbinovskogo i  
I.A.M.Bol'shama. 1963. 880 p. (MIRA 16:7)  
(Power engineering—Handbooks, manuals, etc.)  
(Electric power distribution)

BABKO, A.K.; MIKHEL'SON, P.B.; KIRPA, I.M.

Photometric determination of tin as a tin-iron-dimethylglyoxime  
ternary compound. Ukr.khim.zhur. 28 no.8:963-967 '62.  
(MIRA 15:11)

1. Kiyevskiy gosudarstvennyy universitet im. T.G. Shevchenko.  
(Tin--Analysis) (Tin compounds)

KIRPAL', G.R.

Turgay bauxite-bearing province. Lit. i pol. iskop. no.5:88-95  
S-0 '64. (MIRA 17:11)

1. Severo-Kazakhstanskoye geologicheskoye upravleniye, Kustanay.

KIRPAL', G.R.

Epochs of bauxite accumulation in the Cretaceous and Paleogene  
in the Turgay trough. Geol. rud. mestorozh. 6 no.6:110-122 N-D  
'64. (MIRA 18:4)

1. Severo-Kazakhstanskoye geologicheskoye upravleniye, Kustanay.

KIRPANI, M. P.

Kirpani, M. P. - "The effect of hay-cutting times on the quality of hay", Trudy Buryat-Mongol. opyt. stantsii po zhivotnovodstvu, Issue 1, 1949, p. 109-15.

SO: U-4631, 16 Sept. 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1956).

KIRPANEV, M.

Important form of methodological work. Prof.-tekh.obr. 21  
no.3:12 Mr '64. (MIRA 17:4)

1. Zamestitel' nachal'nika Moskovskogo gorodskogo upravleniya  
professional'no-tehnicheskogo obrazovaniya.



KIRPANEVA, L.I.

Structural types of plow layers as related to filtration,  
porosity, and volumetric weight. Zemledelia 6 no.11:24-28  
N '58.

(MIRA 11:11)

(Soil physics)

KIRPANEVA, L.I.

Effect of frost on soil structure. Dokl. Akad. sel'khoz 24 no.11:37-41 '59  
(MIRA 13:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy i agropochvovedeniya. Predstavlena chlenom-korrespondentom Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni Lenina.  
(Soil freezing)

KIRPANEVA, L.I.

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"The Structure of the Topsoil of Silty Clay Sod-Podzolic Soils,  
Some Regularities of its Changes, and Research Methods";

dissertation for the degree of Candidate of Agricultural Sciences  
(awarded by the Timiryazev Agricultural Academy, 1962)

(Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, Moscow, No. 2,  
1963, pp 232-236)

GORBATSEVICH, N.P., red.; KIRPATOVSKAYA, Z.I., red.; MOISEYEV, I.N.,  
red.; BRAYNINA, M.I., tekhn. red.

[Hydrological yearbook] Gidrologicheskii ezhegodnik. Leningrad,  
Gidrometeor. izd-vo. 1958; Vol. 2. [Basin of the Black and  
Azov Seas (excluding the Caucasus)] Basseiny Chernogo i Azov-  
skogo morei (bez Kavkaza). No.4.5. [Dnieper River basin below  
the Pripet River] Bassein r. Dnepr nizhe r. Pripjat'. Pod red.  
N.P.Gorbatsevich i Z.I.Kirpatovskoi. 1961. 283 p.

(MIRA 15:4)

(Kara Sea--Hydrology) (Azov, Sea of--Hydrology)  
(Dnieper River--Hydrology)

AVERCHENKO, V.P., inzh.; KIRPATOVSIIY, G.V., inzh.; FOKH, I.Ye., inzh.

Electric power supply of the construction site of the Krasnoyarsk  
Hydroelectric Power Station. Energ. stroi. no.41:45-54 '64.  
(MIRA 17:11)

KIRPATOVSIIY, I.D.

Intestines - Surgery

Single intestinal sutures with knots on the mucosa, Khirurgiia no. 5, 1952.

Monthly List of Russian Accessions, Library of Congress. November 1952. UNCLASSIFIED

KIRPATOVSKIY, I. D.

"Fasciae and Cellular Spacing in the Foot." Cand Med Sci, First Moscow  
Order of Lenin Medical Inst, 15 Nov 54. (VM, 4 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher  
Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

KIRPATOVSKIY, I. D.

KIRPATOVSKIY, I.D.

Comparative characteristics of one and two row intestinal sutures.  
Khirurgiya no.11:63-68 N 154. (MIRA 8:3)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (sav.  
prof. V.V.Kovanov) i Moskovskogo ordena Lenina meditsinskogo instituta.

(INTESTINES, surgery,

exper. anastomosis, one & two row sutures, comparison)

(SUTURES,

intestinal anastomosis with one & two row sutures in dogs,  
comparison)



KIRPATOVSIIY, I.D.

Fascial plexuses. Arkh.anat.gist.i embr. 31 no.1:65-73 Ja-Mr '54.  
(MLRA 7:4)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii  
(zaveduyushchiy - professor V.V.Kovanov) i Moskovskogo ordena Lenina  
meditsinskogo instituta.

(Fascias (Anatomy) (Foot)

**KIRPATOVSKIY, I.D.,** kandidat meditsinskikh nauk.

A new modification in enterorrhaphy. *Khirurgiia* no.10:84-86 0 '55.  
(MLRA 9:2)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii  
(sav.-prof. V.V. Kovanov) i Moskovskogo ordena Lenina meditsinskogo  
instituta.

(INTESTINES, surg.  
enterorrhaphy, new modification)  
(SUTURES,  
modified, in surg. of intestines)

*Kirpatovskiy, I. D.*  
KIRPATOVSКИЙ, I.D., kand.med.nauk (Moskva, ul. Baskovoy, d.30, kv.13)

Mucous membrane suture in surgery of the alimentary canal [with summary in English]. Vest.khir. 79 no.8:66-70 Ag '57. (MIRA 10:10)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav. prof. V.V.Kovanov) 1-go Moskovskogo ordena Lenina meditsinskogo instituta .

(GASTROINTESTINAL SYSTEM, surg.  
mucous membrane suture)

KIRPATOVSKIY, I.D.

New method of esophageal anastomosis. *Eksp. khir.* 3 no.6:17-22 N-D '58.  
(MIRA 12:1)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (rav.-  
prof. V.V. Kovanov) i Moskovskogo ordena Lenina meditsinskogo instituta.  
(ESOPHAGUS, surg.  
anastomosis, technic (Rus))

KIRPATOVSKIY, I.D.; VARPOLOMEYVA, T.M. (Moskva)

Experimental comparison of knotted and continuous sutures of intestinal serous membranes to muscles. Eksp. khir. 3 no.6:57-58 N-D '58.  
(INTESTINES--SURGERY) (MIRA 12:1)  
(SUTURES)

KIRPATOVSKIY, I.D.; VANTSYAN, Ye.N.; ZOLOTAREVSKIY, V.B.

Alloplasty of the muscular coat of the esophagus with a polyvinyl-  
alcohol sponge. Khirurgia 35 no.8:48-54 Ag '59. (MIRA 13:12)  
(ESOPHAGUS—SURGERY)

KIRPATOVSKIY, I.D., kand.med.nauk; KULIK, V.P., student

Porous and nonporous prostheses in esophageal alloplasty.  
Khirurgiya 36 no.11:112-117 N '60. (MIRA 13:12)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii  
(zav. - prof. V.V. Kovanov) I Moskovskogo ordena Lenina meditsin-  
skogo instituta imeni I.M. Sechenova.  
(ESOPHAGUS—SURGERY)

KIRPATOVSKIY, I. D.

Doc Med Sci - (diss) "Theoretical foundations for intestinal suture."  
Moscow, 1961. 31 pp; (Second Moscow State Med Inst imeni N. I.  
Pirogov); 350 copies; price not given; list of author's works on  
pp 30-31 (10 entries); (KL, 7-61 sup, 255)



KIRPATOVSKIY, I.D., kand.med.nauk

Anatomical and experimental principles for surface foot anesthesia.  
Vest.khir. 86 no.2:75-77 '61. (MIRA 14:2)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii  
(zav. - prof. V.V. Kovanov) 1-go Moskovskogo ordena Lenina medi-  
tsinskogo instituta im. I.M. Sechenova.  
(FOOT--SURGERY) (LOCAL ANESTHESIA)

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APPROVED FOR RELEASE: 06/13/2000

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KIRPATOVSKIY, I.D.; SHUVAYEV, V.V. (Moskva)

Some special problems of transplantation, based on materials of the scientific conference of the Laboratory for Transplantation of Organs and Tissues at the Academy of Medical Sciences of the U.S.S.R. Vest. AMN SSSR 18 no.12:89-90 '63. (MIRA 17:7)

KIRPATOVSKIY, I.D.

Technique of a total transplantation of the heart and lungs.  
Eksp. khir. i anest. 9 no.5:30-34 1961.

(PAPA 18:11)

1. Laboratoriya po peresadke organov i tkany (Immunologiya i  
stvitel'nyy chlen AMN SSSR prof. V.V. Kevanov, Moskva, SSSR).

BOCHAROV, V. Ya.; KIRPATOVSKY, I.D.

Regeneration of the lymph and blood vessels of the wall of the small intestine of dogs after different types of intestinal sutures. *Cesk. morf.* 13 no.2:170-174 '65

1. Department of Normal Anatomy, 1st Moscow Medical Institut and Laboratory for organ and tissue transplantation, Academy of Medical Sciences U.S.S.R., and Department of Operative Surgery, P.Iumumba University, Moscow, U.S.S.R.

KIRPATOVSKIY, I.D.; OKSMAN, T.M.; BYKOVA, N.A.

Vascular anastomoses in the autotransplantation of an extremity.  
Trudy 1-go MMI 42:38-43 '65. (MIRA 19:2)

1. Laboratoriya po peresadke organov i tkaney AMI SSSR.

KIRPATOVSIIY, I.D.; OKSMAN, T.M.; SHUVAYEV, V.V.

Technique of the replantation of an extremity in dogs. Trudy  
1-go MMI 42:25-29 '65.

Intravital lympho- and vasography in a replanted extremity;  
preliminary report. Ibid.:44-48 (MIRA 19:2)

1. Laboratoriya po peresadke organov i tkany 129 SSSR.

KIRPATOVKIY, I.D.; TROSHIN, A.Z.; KULIK, V.P.

Use of synthetic vascular prosthesis in total transplantation  
of the small intestine; preliminary report. Trudy 3-go NMI 42:  
224-231 '65. (MIRA 19:2)

1. laboratoriya po peresadke organov i tkaney AMI SSSR i kafedra  
operativnoy khirurgii i topograficheskoy anatomii i Moskovskogo  
ordena Lenina meditsinskogo instituta imeni Sechenova.



BOCHAROV, V.Ya.; KIRPATCVSKIY, I.D.; KULIK, V.F.

Anatomicoexperimental study of lymphatic and blood vessels of the small intestine in dogs following its total auto- and homotransplantation. Trudy 1-go MMI 42:214-223 '65.

(MIRA 19:2)

1. Kafedra anatomii cheloveka i Moskovskogo ordena Lenina meditsinskogo Instituta imeni Sechenova i laboratoriya po perosadke organov i tkaney AMN SSSR.

KIRPATOVSKIY, I.D.; OKSMAN, T.M.; BYKOVA, N.A.

Vascular anastomoses in the autotransplantation of an extremity.  
Trudy 1-go MMI 42:38-43 '65. (MIRA 19:2)

1. Laboratoriya po peresadke organov i tkaney AMI SSSR.

CHERKASOVA, M.Ye.; KIRPATOVSKIY, I.D.

Homotransplantation of the kidney. Trudy 1-go MMI 42:177-180  
'65. (MIRA 19:2)

1. Laboratoriya po peresadke organov i tkaney AMN SSSR.

1 00001-07

ARG034654 (2) SOURCE CODE: UR/0299/66/000/008/M020/M020

AUTHOR: Cherkasova, M. Ye.; Kirpatovskiy, I. D.

TITLE: On the problem of kidney homograft

SOURCE: Ref. zh. Biologiya, Part II, Abs. 8M118

REF SOURCE: Tr. 1-go Mosk. med. in-ta, v. 42, 1964, 177-180

TOPIC TAGS: biologic transplant, organ transplant, medical science

ABSTRACT: A kidney transplant to the neck performed on dogs was accompanied in the case of eight dogs (first series) by a bilateral nephrectomy. A one-sided nephrectomy was performed on 11 dogs (second series) at the time of the transplant. No nephrectomy was performed on four dogs (third series). Among all the dogs, eight died within two days. The kidney of the dogs of the first series functioned for 7-11 days (to seven days in one case). A sharp change in the blood indices and urine composition was noted. The transplanted kidney of the dogs of the second and third series ceased to eliminate urine on the second to seventh day (in two cases, more than seven days). No change was noted in blood and urine

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indices. After the transplanted kidney ceased to function, its size doubled and a few days later, it detached itself. [Translation of abstract]

SUB CODE: 06/

2/2

ACC NR: AR6034852 (A) SOURCE CODE: UR/0299/66/000/008/M020/M020

AUTHOR: Bocharov, V. Ya.; Kirpatovskiy, I. D.; Kulik, V. P.

TITLE: Experimental anatomic investigation of lymphatic and blood vessels of the small intestine of dogs after its total auto- and homotransplantation

SOURCE: Ref. zh. Biologiya, Part II, Abs. 8M116

REF SOURCE: Tr. 1-go Mosk. ped. in-ta, v. 42, 1965, 214-223

TOPIC TAGS: autotransplantation, homotransplantation, medical research, biologic transplant, biology, intestine, intestine transplantation, grafting

ABSTRACT: Autotransplantation of the small intestine was performed on 9 dogs, and homotransplantation of the same on 7 dogs. The upper mesenteric artery and vein were joined to the main blood vessels of the host. The lymphatic vessels were either completely ligated, with conservation or extirpation of lymph nodes, or else 1-2 large lymphatic vessels were ligated, leaving a free lymph drainage into the abdominal cavity through the remaining lymphatic vessels. The material was investigated in the process of the operation, after 1-2 days, 1-2 weeks, 1-2

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months and more. More clearly expressed reaction changes in blood and lymphatic vessels were observed during homotransplantation than during autotransplantation. The earliest changes in blood and lymphatic vessels took place in the area of the vascular crus and intestinal anastomoses. The intestines showed more sharply defined changes in the venous system than in the arterial system. The area of the intestinal suture joined to the blood vessels towards the end of the first week. Drainage of lymph from the transplanted intestine was resumed in the end of the second week. Extirpation of mesenteric lymph nodes delayed the regenerative processes in the lymphatic vessels of the small intestine. Transplants diverting the lymphatic vessels formed at the end of the second month. The vessel cuff helped the regeneration of lymphatic and blood vessels. It is deduced that in cases of total transplantation of the small intestine it is indispensable to restore blood circulation, and likewise to rebuild main and abducent lymphatic vessels. [Translation of abstract] [GC]

SUB CODE: 06/

Card 2/2

ACC NR: AR6034652 (A) SOURCE CODE: UR/0299/66/000/008/M020/M020

AUTHOR: Bocharov, V. Ya.; Kirpatovskiy, I. D.; Kulik, V. P.

TITLE: Experimental anatomic investigation of lymphatic and blood vessels of the small intestine of dogs after its total auto- and homotransplantation

SOURCE: Ref. zh. Biologiya, Part II, Abs. 8M116

REF SOURCE: Tr. 1-go Mosk. ped. in-ta, v. 42, 1985, 214-223

TOPIC TAGS: autotransplantation, homotransplantation, medical research, biologic transplant, biology, intestine, intestine transplantation, grafting

ABSTRACT: Autotransplantation of the small intestine was performed on 9 dogs, and homotransplantation of the same on 7 dogs. The upper mesenteric artery and vein were joined to the main blood vessels of the host. The lymphatic vessels were either completely ligated, with conservation or extirpation of lymph nodes, or else 1-2 large lymphatic vessels were ligated, leaving a free lymph drainage into the abdominal cavity through the remaining lymphatic vessels. The material was investigated in the process of the operation, after 1-2 days, 1-2 weeks, 1-2

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UDC: 577.89+591.169



ACC NR: AR6034652

months and more. More clearly expressed reaction changes in blood and lymphatic vessels were observed during homotransplantation than during autotransplantation. The earliest changes in blood and lymphatic vessels took place in the area of the vascular crus and intestinal anastomoses. The intestines showed more sharply defined changes in the venous system than in the arterial system. The area of the intestinal suture joined to the blood vessels towards the end of the first week. Drainage of lymph from the transplanted intestine was resumed in the end of the second week. Extirpation of mesenteric lymph nodes delayed the regenerative processes in the lymphatic vessels of the small intestine. Transplants diverting the lymphatic vessels formed at the end of the second month. The vessel cuff helped the regeneration of lymphatic and blood vessels. It is deduced that in cases of total transplantation of the small intestine it is indispensable to restore blood circulation, and likewise to rebuild main and abducent lymphatic vessels. [Translation of abstract] [GC]

SUB CODE: 06/

Card 2/2

SOV/112-57-6-12637

Translation from: Referativnyy zhurnal. Elektrotehnika, 1957, Nr 6, p 146 (USSR)

AUTHOR: Kirpatovskiy, S. I.

TITLE: Calculation of the Dynamic Errors of a Steady-State Condition in Linear Systems of the First and Second Orders (Raschet dinamicheskikh pogreshnostey ustanovivshegosya rezhima v lineynykh sistemakh 1-go i 2-go poryadkov)

PERIODICAL: Nauch. zap. L'vovsk. politekhnich. in-t, 1955, Nr 34, pp 7-42

ABSTRACT: Calculation of dynamic error is considered in linear fourpoles that are described by equations of the first and second orders. The conventional method of determining error on the basis of amplitude and phase is inconvenient for a harmonic-motion characteristic and is inadequate for non-harmonic motion. An engineering method for the approximate calculation of dynamic error is set forth. It includes finding the total dynamic error of a harmonic motion, and summing the total errors of individual harmonics, for calculating the error of a non-harmonic motion. Examples of error determination are considered for differentiating and integrating electric circuits of the first order,

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SOV/112-57-6-12637

Calculation of the Dynamic Errors of a Steady-State Condition in Linear Systems . . . .

as well as for a second-order circuit comprising L and C. The procedure of adding up the errors of individual harmonics is specified. To facilitate calculation of the total errors of harmonics, nomograms for differentiating and integrating circuits are presented. The above method permits determining parameters of a fourpole on the basis of a specified permissible error and a specified function of motion. It is pointed out that, with passive elements, differentiating is accompanied by a lesser error than is integrating. Appended is a numerical example of calculating the dynamic error associated with differentiating a periodic process. Bibliography: 3 items. 21 illustrations.

N.M.A.

Card 2/2

KIRPATOVSIIY, S.I., kandidat tekhnicheskikh nauk, dotsent.

Calculating currents in line circuits. Elektrichestvo no.4:86-87  
Ap '57. (MLRA 10:5)

L.L'vovskiy politekhnicheskiy institut.  
(Electric circuits)

9(2)  
AUTHOR: Kirpatovskiy, S.I., Docent, Candidate of Technical Sciences SOV/143-59-2-5/19

TITLE: Grounds for the Theory of Total Power of a Polyphase Circuit (Obosnovaniya teorii polnoy moshchnosti mnogofaznoy tsepi)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1959, Nr 2, pp 30-41 (USSR)

ABSTRACT: In his paper, the author uses the term "polnaya moshchnost'" (total power) instead of "kzhushchayasya moshchnost'" (apparent power) according to the recommendations for the terminology of theoretical electrical engineering, published in "Elektrichestvo" 1957, Nr 6 [Ref 15]. In his paper, the author defines the conceptions of the apparent power of a polyphase circuit. He states that a large number of authors, [Ref 1-11], devoted their works to the definition of the apparent power in a polyphase circuit, but the results were often contradictory and confusing. Consequently, since there is no generally ac-

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SOV/143-59-2-5/19

Ground for the Theory of Total Power of a Polyphase Circuit

Accepted definition of the apparent power, there is no generally accepted theory of the apparent power in a polyphase circuit and the calculations of the apparent power according to the methods of different authors lead to unequal results. The author of this paper starts his definition with the statement that the conception of apparent power of a polyphase circuit must be analogous in principle to the conception of apparent power of a single-phase circuit. In the author's opinion, the apparent power of a consumer expresses the highest active power which may be obtained by a consumer after a certain improvement of his circuit parameters. The author performs the solution of the principal problems by using the example of a three-phase circuit with sinusoidal current and then presents formulae for polyphase circuits with non-sinusoidal current. He presents the basic formulae for the power theory, once for a circuit with a neutral conductor and a circuit without

Card 2/5

SOV/143-59-2-5/19

Ground for the Theory of Total Power of a Polyphase Circuit

a neutral conductor (additional formulae are listed in an appendix). Contrary to the opinion of R.A. Voronov and G.Ye. Pukhov [Ref 12], the author states that the expression of apparent power is as invariant as that of the active and reactive power. The power theories of F. Buchholz [Ref 1], W. Quade [Ref 6], I. Rosenzweig [Ref 7], L.S. Lur'ye [Ref 9], and G. Ye. Pukhov [Ref 11] are reviewed. G.Ye. Pukhov used the criterium of equivalence and arrived at a definition analogously to that accepted by the AIEE. Based on his investigations, the author arrives at the following conclusions: 1) The theory of I. Rosenzweig may be fully proved, in the same manner as the deficiencies of the other theories may be proved, and there are no reasons for the existence of different theories which cause confusions when measuring the apparent power. 2) As a result of the work of several authors, among them a number of Soviet ones, electric engineers have a sufficiently suitable and

Card 3/5

SOV/143-59-2-5/19

Grounds for the Theory of Total Power of a Polyphase Circuit

reliable power theory of polyphase circuits. The basic part of this theory coincides with the work of I. Rosenzweig; the author explains the premises of the latter theory briefly. 3) For a more accurate calculation of the operational qualities of power consumers, it is necessary to develop and introduce meters for the "apparent power", measuring

$$A_{app} = \int_0^t P_n dt$$

or meters for the "passive" electric power, measuring

$$A_{pass} = \int_0^t \sqrt{P_n^2 - P_a^2} dt$$

whereby the latter are more desirable. In both cases, these measurements should be made as an addition to the active power measurements and instead

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SOV/143-59-2-5/19

Grounds for the Theory of Total Power of a Polyphase Circuit

of reactive power measurements. 4) The principles of the power theory for polyphase circuits must be explained in manuals and lectures to students of electrical engineering. There are 2 diagrams, and 16 references, 1 of which is American, 1 Polish, 5 German and 9 Soviet.

ASSOCIATION: L'vovskiy politekhnicheskii institut (L'vov Polytechnical Institute)

PRESENTED: Kafedra teoreticheskoy i obshchey elektrotekhniki  
(Chair of Theoretical and General Electrical Engineering)

SUBMITTED: July 4, 1958

Card 5/5

KIRPATOVSKIY, S.I., kand.tekhn.nauk, dotsent

Equations of the nonsymmetric winding of an asynchronous machine in stationary operation. Izv. vys. ucheb. zav.; energ. " no.10:30-37  
0 '61. (MIRA 14:11)

1. L'vovskiy politekhnicheskoy institut. Predstavlena kafedroy  
teoreticheskoy i obshchey elektrotekhniki.  
(Electric machinery--Windings)

KIRPATOVSKIY, S.I.

Indication of a  $90^\circ$  phase shift and use of the modulation of the  
parameters of measuring networks to achieve this. Nauch. zap. LPI  
no.1:235-242 '61. (MIRA 16:6)

(Electric measurements)

44995

S/135/63/000/002/008/015  
A006/A101

/ 2307

AUTHORS: Gubenko, T. P., Doctor of Technical Sciences, Batranin, Yu. Ye.,  
Klopstovskiy, S. I., Lukin, V. I., Candidates of Technical Sciences,  
Rybakov, V. V., Fal'kevich, V. P., Engineers

TITLE: Automatic quality control of spot welding by infrared radiation

PERIODICAL: Svarochnoye proizvodstvo, no. 2, 1963, 25 - 27

TEXT: In 1960 - 1961, the authors have been studying at the L'vov Poly-  
technic Institute the correlation between infrared radiation and the welding  
process and the quality of the weld joints produced. The results obtained were  
used to develop an automatic device for quality control of spot welding during  
the welding process by the intensity of the infrared radiation flux which is ir-  
radiated from the annular electrode-adjacent zone of the part to be welded. When  
the given infrared radiation level, corresponding to a given diameter of a spot,  
has been attained, the welding current is switched-off. The machine consists of  
the measuring head and the measuring unit, which are described and illustrated.  
The device was tested on spot-welding machine WP 62 d/60 with up to 500 kg elec-

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Automatic quality control of...

S/135/63/000/002/008/015  
A006/A101

trode compression force. The welding current attained 18 kamp. Special experimental welding tests were performed; optimum conditions were not observed, i.e. the current and the electrode compression force were lowered or increased, and the methods of preparing the specimens varied. The main properties of the new machine were revealed by investigating the dependence of the weld joint strength and the dimensions of the cast nucleus upon the parameters of the welding conditions and the preparation of the specimens. It was found that the scattering of results in the breaking force per welded spot was only  $\pm 6\%$  at varying compression force of the electrodes. Analogous results were obtained when the welding current was changed. The strength of the weld joint was 2,600 kg on the average for 2.5 mm thick plates and varied within  $\pm 8\%$ . The tests show that high stability of welding one spot is assured, independent of the changes in welding conditions, parameters and preparation of specimens. There are 5 figures

X

ASSOCIATION: L'vovskiy politekhnicheskiy institut (L'vov Polytechnic Institute)  
(Rybakov)

Card 2/2

ACC NR: AP7002583

(A,N)

SOURCE CODE: UR/0413/66/000/023/0078/0079

INVENTOR: Kirpatovskiy, S. I.

ORG: none

TITLE: Method for measuring flow rates of the separate components of two-component flows. Class 42, No. 189170 [announced Laboratory of Automation and Automatization of Electric Drive, L'vov Polytechnic Institute (Laboratoriya avtomatiki i avtomatizatsii elektroprivoda L'vovskogo politekhnicheskogo instituta)]

SOURCE: Izobreneniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 78-79

TOPIC TAGS: flow meter, fluid flow, *computer calculation*

ABSTRACT: This Author Certificate presents a method for measuring flow rates of the separate components of two-component flows if the densities of these components are different and known. To eliminate the effect of shearing of the flow components on the results of measuring the quantities, the volume and mass flow rates of the two-component flow are measured respectively by volume and mass flow rate sensors placed directly one after the other along the flow. The signals proportional to the measured flow rates are fed to a computer which solves the system of two equations relating the volume and mass flow rates of the separate components.

SUB CODE: 13/ SUBM DATE: 18Jun65

UDC: 681.121.8

Card 1/1

KIRPENEV, N.K.

Automatic device for the feeding of veneer sheet packages into  
the press and for unloading the bent and flued blocks. Der.  
prom. 10 no.12:8 D '61. (MIRA 14:12)

1. Ukgipromebel'.  
(Woodworking machinery)  
(Automatic control)

YEZERSKIY, M.Z.; KIRPENOV, N.K.; DAYENMAN, I.M.

New type of an automatic reversing feeder. Der.prom. 10 no.5:19-  
20 My '61. (MIRA 14:5)  
(Assembly-line methods) (Furniture industry)



KIRPENEV, N.K., inzh.

Multiple-bit vertical (attachable) boring machine. Der.prom. 11  
no.12:24 D '62. (MIRA 16:1)

1. Ukrainskiy institut proyektirovaniya mebeli.  
(Woodworking machinery)

MAYATIN, A.A.; KRUTOUS, M.D.; GITARSKIY, V.S.; BORISUKO, V.S.; GORELIK, M.M.;  
VINOGRADOV, N.P.; KAUFMAN, D.I.; SIAVIN, I.S.; OGBERASHVILI, M.H.;  
KIRPENY, N.K.; FOZENBERGER, N.A.; HAPKHANENKO, Z.S.; KIPUS, L.A.;  
ZAYCHENKO, I.V.

Innovations. Bum. 1 der. prom. no.3:58-59 J1-S '64.

(MIRA 17:11)

KIRPICHENKO, Antonina Vasil'yevna

[Can vegetables and fruit at home] Konserviruite ovshchi i plody  
na domu. Stavropol', Knizhnoe isd-vo, 1959. 92 p.

(MIRA 13:6)

(Fruit--Preservation) (Vegetables--Preservation)

*KIRPICHENKO, M. M.*

UKHVANOV, Pavel Ivanovich; KIRPICHENKO, M.M., red.; CHOTIYEV, S., tekhn.red.

[The land and water reform in Kirghizia during 1921 and 1922]  
Zemel'no-vodnaisa reforma v Kirgizii v 1921-1922 godakh. Frunze,  
Kirgizskoe gos. izd-vo, 1957. 49 p. (MIRA 11:2)  
(Kirghizistan--Land tenure)

AYDARALIYEV, A.A.; KIRPICHENKO, M.M., red.; BEYSHENOV, A., tekhn.red.

[Basic stages in the development of the public health service  
in Kirghizistan] Osnovnye etapy razvitiia zdavookhraneniia  
Kirgizii. Frunse, Kirgizskoe gos.isd-vo, 1958. 98 p.  
(MIRA 12:7)

(Kirghizistan--Public health)

TKACHENKO, K.; KIRPICHENKO, M.M., red.; CHOTIYEV, S., tekhn.red.

[Alamedinka cascade] Alamedinskii kaskad. Frunse, Kir-  
gizskoe gos.izd-vo, 1959. 56 p. (MIRA 13:4)  
(Alamedin River--Electric power plants)

SOROKIN, P.I.; KIRPICHENKO, M.M., red.; BEYSHENOV, A., tekhn. red.

[Over-all mechanization of earthwork operations in construction]  
Kompleksnaia mekhanizatsiia zemlianykh rabot v stroitel'stve.  
Frunze, Kirgizskoe gos.izd-vo, 1960. 58 p. (MIRA 14:6)  
(Earthwork—Technological innovations)

POLYAKOV, Aleksandr Vasil'yevich; KIRPICHENKO, M.M., red.; CHOTIYEV, S.,  
tekh. red.

[Right-flank of the seven-year plan.] Pravoflangovyi semiletki.  
Frunze, Kirgizskoe gos. izd-vo, 1960, 34 p. (MIRA 15:4)  
(Frunze—Steel industry)  
(Socialist competition)



SHUMKIN, N.Ya.; KIRPICHENKO, M.M., red.; CHOTIYEV, S., tekhn. red.

[New developments at construction projects in Kirghizia]  
Novoe na stroikakh Kirgizii. Frunze, Kirgizskoe gos. izd-  
vo, 1961. 55 p. (MIRA 15:11)  
(Kirghizistan—Construction industry)

KIRPICHENKO, M. Ya.

A new larval form of *Cryptochironomus serpancus* sp.n. (Diptera,  
Tendipedidae), Zool. zhur. 40 no.5:780-781 '61. (MIRA 14:5)

1. Biological Laboratory of the Secondary School No. 7, Stavropol  
Kuybyshev region.

(Kuybyshev Reservoir—Chironomidae)  
(Larvae—Insects)

KIRPICHENKO, M.Ye.; MIKHAYEV, V.P.; SHTERN, Ye.P.

Fight against dreissena polymorpha pallas in hydroelectric power  
stations. Elek. sta. 33 no.5:30-31 My '62. (MIRA 15:7)  
(Hydroelectric Power Stations—Water supply)  
(Lamellibranchiata)

KIRPICHENKO, M.Ya.

Phenology, dynamics of the abundance and growth of Dreissena  
larvae in Kuybyshev Reservoir. Trudy Inst. biol. vnutr. vod  
no.7:19-30 '64. (MIRA 18:2)

1. Kuybyshevskaya stantsiya Instituta biologii vnutrennikh vod  
AN SSSR.

KIRPICHENKO, M.Ya.

New quantitative high-speed plankton sampler. Vop. ekol. 4:113-  
115 '62. (MIRA 15:11)

1. Biologicheskaya stantsiya Instituta biologii vodokhranilishch  
AN SSSR, Kuybyshev.

(Plankton research)

KIRPICHENKO, M.Ya.

Characteristics of the distribution of Dreissenidae after the  
regulation of the Volga River. Trudy Inst. biol. vnutr. vod  
no.6:153-158 '63. (MIRA 18:1)

BIRYUKOV, I.N.; KIRPICHENKO, M.Ya.; LYAKHOV, S.M.; SERGEYEVA, G.I.

Living conditions of the mollusk *Dreissena polymorpha* Pallas in the Babinskiy Bay of the Oka River. Trudy Inst. biol. vnutr. vod no.7:38-46 '64. (MIRA 18:2)

1. Kuybyshevskaya stantsiya Instituta biologii vnutrennikh vod AN SSSR i Gor'kovskoye otdeleniye instituta "Giprotorfrazvedka".

KIRPICHENKO, N.I., kand. geol.-mineral. nauk

Construction experience on macroporous soils. Gidr. stroi. 27  
no.10:36-37 0 '58. (MIRA 11:12)  
(Soil mechanics) (Hydraulic engineering)



KIRPICHENKO, P. S.

"Some Problems Concerning Potato Selection in the Donbass." Cand Agr  
Sci, Khar'kov, 1953. (RZhBiol, No 7, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR  
Higher Educational Institutions (12)

SC: Sun. No. 556, 24 Jun 55

KIRPICHENKOV B.Z.

~~KIRPICHENKOV, B.Z., kandidat ekonomicheskikh nauk.~~

Average daily performance is the basic utility index for locomotives. Elek. i topl. tiaga no.4:45-46 Ap '57. (MLRA 10:6)

1. Nachal'nik Planovo-ekonomicheskogo otdela Omskoy dorogi.  
(Locomotives)

~~KIRPICHENKOY, Ya~~

Improving the planning of work in railroad transportation.  
Sots.trud. no.4:46-52 Ap '56.

(MLRA 9:11)

(Railroads)

KIRPICHENKOV, Ya.

~~Bank control over~~ the disbursement of wage funds in transportation.  
Den.1 kred. 14 no.5:25-27 My '56. (MLRA 9:8)  
(Railroads--Salaries, pensions, etc.)

KIRPICHENKOV, Ya. P.

New equipment and raising labor productivity on railroads.  
Zhel. dor. transp. 38 no.9:49-53 8 '56. (MLRA 9:10)

1. Nachal'nik planovo-ekonomicheskogo otdela Omskoy dorogi.  
(Railroads--Management)

KIRPICHENKOV, YA. P.

KIRPICHENKOV, Ya. P. (Omsk)

How to improve planning of operations on railroads. *Zel.dor.*  
transp. 39 no.4:31-35 Ap '57. (MLRA 10:5)

1. Nachal'nik planovo-ekonomicheskogo otdela Omskoy dorogi.  
(Railroads--Management)

KIRPICHENKOV, Ya.F..

Important possibility for increasing labor productivity of  
railroad workers. Zhel. dor. transp. 41 no.1:45-49 Ja '59.  
(MIRA 12:1)

1. Nachal'nik planevo-ekonomicheskogo otdela Omskoy doregi.  
(Railroads--Employees)

SOV/58-59-5-10774

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 126 (USSR)

AUTHORS: Borgardt, A.A., Bystritskiy, G.P., Kirpichev, A.F.

TITLE: On the Theory of ~~Farromagnetism~~ 71...

PERIODICAL: Nauchn. zap. Dnepropetrovsk. un-t. 1956, Vol 45, pp 113 - 121 ✓

ABSTRACT: The article has not been reviewed.

Card 1/1



SOV/138-58-10-7/10  
AUTHORS: Kirpichev, A. I; Ustrugov, L. L. Mistryakova, G. V;  
~~NIKOL'skaya, V. N.~~

TITLE: Preparation of Rubber Mixes on Continuous Production  
Lines (O potochnykh liniyakh po izgotovleniyu rezino-  
vykh smesey)

PERIODICAL: Kauchuk i Rezina, 1958, Nr 10, pp 29 - 32 (USSR)

ABSTRACT: An account is given of 2½-years experience since the  
introduction of continuous-line working in the rubber  
mixing, milling, extrusion calendering and other sections  
of the factory. Wasteful cooling and re-heating of the  
rubber mix between stages of preparation has been elimin-  
ated by careful integration of the capacities of the  
various units of the plant which feed directly from one  
unit to the next. The rubber mix is transported on con-  
veyor belts from the mixers to the initial leafing mills,  
through to the mills feeding the calenders and other  
plant, as a ribbon about 20 cm wide. The necessary or-  
ganization between the various shops to co-ordinate  
rate of consumption of the mix is discussed. The intro-  
duction of "express-control" methods, enabling the mixes  
to be tested for correct vulcanizing properties, within  
about 3 minutes of preparation, is essential to success-

Card 1/2

SOV/138-58-10-7/10  
Preparation of Rubber Mixes on Continuous Production Lines

ful continuous-line working. Considerable savings are quoted (actually in thousands of roubles, but not related to output) with respect to power requirements for the rubber mills, reduction in amount of cooling water and compressed air used, and in particular through elimination of wastage of material as a result of rapid inspection possible with "express-control". Further economies result from the small labour force required which gives approx. 10% greater output per man-shift, and through freeing of space formerly required for intermediate storage of material in course of preparation. There are 2 Figures and 1 Table.

ASSOCIATION:Kirovskiy shinny zavod (Kirov Tire Factory)

Card 2/2

KIRPICHEV A. F.

174

PHASE I BOOK EXPLOITATION

80V/3856

Leningrad. Tsentral'nyy nauchno-issledovatel'skiy kotloturbinnyy institut imeni I.I. Polzunova

Avtomaticheskoye regulirovaniye (Automatic Control) Moscow, Mashgiz, 1960.  
138 p. (Series: Its: Sbornik, kn. 36) Errata slip inserted. 3,500  
copies printed.

Scientific Ed.: V.D. Piven', Candidate of Technical Sciences; Ed. of Publishing House: N.Z. Simpnovskiy; Tech. Ed.: Ye.A. Dlugokanskaya; Managing Ed. for Literature on the Design and Operation of Machinery (Leningrad Division, Mashgiz): F.I. Fetisov, Engineer.

PURPOSE: The book is intended for personnel in planning organizations and plant design offices and specialists in automation.

COVERAGE: This collection of 6 articles deals with automatic-control operations in shell (drum-type) boilers, particularly those in which steam conditions are maintained by impulses. Among the topics discussed are fuel-flow control, superheat temperature regulation, function of the feed regulator [governor],

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Automatic Control

80V/3856

combustion control in mechanical stokers with grates, and the effects of leakage and clearances in servoboosters on control. The treatment is mathematical, and a number of theoretical formulas are deduced for computing definite parameters of control operations and steam-flow processes. Empirical results proving the validity of such formulas are cited. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:

Fiven', V.D. [Candidate of Technical Sciences]. Automatic Combustion-Control System Operating on the Rate of Variations of the Controlled Parameter

3

The author's modification of an ordinary control system is based on the use of double-acting regulators of the Polzunov type, intended for positive self-balancing processes. It is proven that such systems are also applicable to negative [out-of-balance] processes, which are automatically corrected so as to regain the proper ratios between the quantities under control. This "flowmatic" type of control operates on the variations in the rate of steam flow from the boiler.

Card 2/4

Automatic Control

807/3856

Sen'kin, V.I., and V.S. Poborchiy [Engineers]. Analysis of Combustion Equations Relative to the Dynamics of Natural-Circulation Shell Boilers

11

The analysis is attempted for the case when steam is generated by a succession of impulses, large enough to compensate for intervals between impulses. Formulas are deduced to determine the relationship between two different vapor "volumes" under the surface of evaporation, that is, the differential ratio of vapor under evaporation [in cubic meters] to the quantity of vapor obtained from the boiler [in kilograms per second].

Ayzenshtat, I.I. [Engineer]. Ways of Improving the Automatic Temperature-Control System for Superheated Steam in Shell Boilers

47

The article outlines the principles of intermediate desuperheating and suggests a three-impulse controlled-superheater system instead of the usual two-impulse type. Equations for the computation of the control parameters for a "multi-impulse" regulator are given.

Card 3/ 4

Automatic Control

SOV/3856

Poborchiy, V.S. Dynamics of Mechanical Stokers With Zone  
Combustion of Fuel

61

The author deduces a number of mathematical formulas for conditions controlling the combustion of fuel by layers (zones), as in chain-grate stokers and stokers of similar design.

Sen'kin, V.I. Natural Vibrations in the Pressure-Control System  
for Mazut [in Tubes]

85

The nature and frequency of natural vibrations and conditions causing the pressure-control regulator to vibrate are analyzed and determined.

Kirpichev, A.P. [Engineer]. Experimental Investigations of the  
Effects of Clearances and Laps in the Cutoff Valve of a Servomotor,  
Including the Effects of Oil Leakage, on the Sensitivity [Controllability]  
of an Indirect Control Regulator

116

This article is an analysis of hydraulic servomotors operating on oil. The nature and magnitude of losses and their effect on automatic control are evaluated. Curves are plotted to trace the degree of such effects.

AVAILABLE: Library of Congress

Card 4/4

AC/pw/mas  
7-25-60

KIRPICHEV, A.P., insh.

Experimental investigation of the effect of gaps and overlaps  
in a cut-off valve and of leakage of fluids in a servomotor on  
the sensitivity of an indirect action type control unit. [Trudy]  
TSKTI 36:116-139 '60. (MIRA 14'4)

(Servomechanisms)

KIRPICHEV, A.S.

SINEOK, Ya.Ya.; BARANOV, M.S., kandidat tekhnicheskikh nauk; PANKUL, L.A.;  
SAPIRO, L.S., inzhener; KAGAN, I.Z., inzhener; GLUKHOV, P.A.,  
instruktor-svarshchik; MIKHIN, V.N.; KIRPICHEV, A.S., uchebnyy  
master.

Cold welding of cast iron. Vest.mash. 34 no.2:68-79 F '54.  
(MLRA 7:3)

1. Zavod im. 15-letiya LKSM Donbassa (for Sapiro).  
(Electric welding)



KIRPICHEV, E. F.

112-2-2794

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957, Nr 2, p. 30 (USSR)

AUTHOR: Kirpichev, E. F.

TITLE: Summary of Studies on the Problem of Ash Separation (Obzor dokladov po voprosu zoloulavlivaniya)

PERIODICAL: Tr. konferentsii po vopr. zoloulavl'iv., shlakozoloudaleniya i shlakozolospol'zov. Moscow, Gosenergoizdat, 1955, pp. 60-66

ABSTRACT: The results of bench and industrial tests of the foam ash separator (AS) and the turbulent scrubber are given. The first foam AS was installed in a boiler having a steam generating capacity of 110 tons/hr and operating on Vorkuta coal. The AS consisted of two chambers with horizontal gratings of carbon steel measuring 4.3 x 2.75 m; the grating openings were 6 mm in diameter. Observations revealed the following: the AS is efficient in separating the ash; 0.15 to 0.4 liter cu m of water are consumed in gas cleaning; the gas cools from 190° to 80°, and the temperature of the water rises from 15° to 40°; the AS has a pressure which varies from 20 to 40 mm of water. Parts of the apparatus corrode; the

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height of the layer of foam over the grating varies, leading to considerable spray entrainment. The measures taken against corrosion and spray entrainment have proven ineffective. The AS was dismantled. A second foam AS was installed at a boiler with a steam generating capacity of 40 tons/hr and operating on  $A_{III}$  (anthracite culm). The volume of gases was 100,000 cu m/hr at 230°. The ash separator consisted of two chambers measuring 1.8 x 2.5m. The grating is of ceramic 100 x 100 mm plates mounted on a metal frame; the shell is lined with asbestos-slate; a spray catcher is installed over the grating. There is an annular gas feed to the separator which ensures unvarying foam layer height over the grating. When the AS has a pressure of  $\sim 30$  mm of water the efficiency is 99 per cent. There being slots between the plates, the water consumption was 0.5 liter cu m. Due to corrosion of individual parts of the equipment and to considerable spray entrainment, the AS was not put into operation. A third foam AS was installed on a boiler with parallel layer burning of coal and wood waste. The volume of gases was 13,000 cu m/hr. The layer of foam on the grating was 200 to 300 mm thick; the water consumption was  $\sim 0.2$  liter cu m; the pressure was  $\sim 70$  mm of water; the efficiency was 60 to 70 per cent. No spray entrainment was observed. A fourth AS was installed in a boiler

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burning Vorkuta coal in "parallel layers." The volume of gases was 8,500 cu m/hr. The AS consists of two sections with gratings each 0.5 m<sup>2</sup>. The efficiency of the AS was also high. A foam AS model was tested on lean-coal ash which had been separated in an electrical filter and on soot obtained from the incomplete burning of mazut in a beaker. The AS is 95 to 96 per cent efficient for ash. At an air velocity of 0.85 m/sec it develops a pressure of 23 to 27 mm of water, and at an air velocity of 1.7 m/sec, the pressure is 53 to 68 mm of water. The AS is 3.5 to 24.8 per cent efficient for soot at an air velocity of 0.16 to 1.3 m/sec., with a specific consumption of water 0.78 to 1.96 liter/ cu m, and with a pressure of 30 to 65 mm of water. When the gas velocities were below 0.8 m/sec, fluid rushing through the grating openings was observed, and at velocities above 1.7 m/ sec there was intense spray entrainment. Even air distribution under the grating and even water distribution over the grating surface is necessary to ensure stable foam formation. On the basis of these results the conclusion can be drawn that the foam AS is a promising apparatus, but requires some further refinements to correct spray entrainment, to ensure more even distribution of the fluid and the gas, and a better choice of optimal gas velocities, and materials for fabricating the

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individual parts. A model of the turbulent scrubber with a port diameter of 76 mm was tested on lean-coal ash obtained from primary separation in an electrical filter. These tests showed that the turbulent scrubber is more effective than the direct flow cyclone with the water film. When measuring efficiency under the same conditions, the single shelf foam AS ensured a maximum gas cleaning efficiency of approximately 96 per cent (when the height of the layer of foam was 200 mm and the pressure 70 mm of water), whereas, the turbulent scrubber ensured a cleaning efficiency of 99.5 per cent (given a pressure of 150 mm of water and a water consumption of as much as 0.5 liter/cu m). The turbulent scrubber has a somewhat lower cleaning efficiency than the wet electrical filter but it is better than the disintegrator. It is assumed that at a specific water consumption of 0.3 to 0.5 liter/cu m and a pressure of about 100 mm of water the turbulent scrubber will ensure a high degree of flue-gas cleaning and can be used in large boiler rooms especially in desulfurizing units. Some theories on the mechanism of dust separation in the turbulent scrubber are given.

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