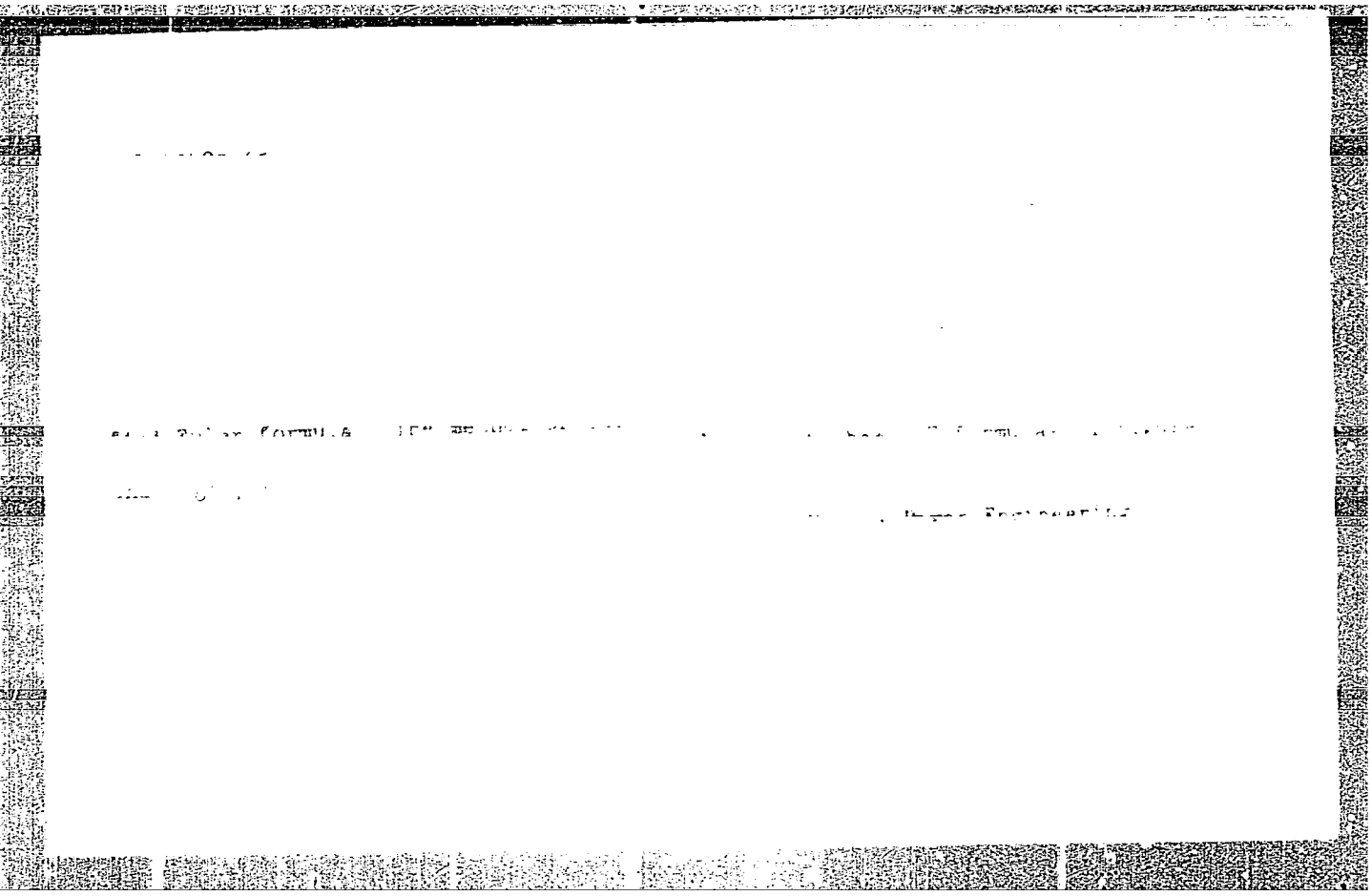
ABSTRACT: In the Laboratory of Steam and Gas Turbines of the Moscow Power



L 16480-65 EWP(f)/T-2/EPA(bb)-2 ASD(p)-3/AFTC(a) S/

ACCESSION NR AM4045987 BOOK EXPLOITATION

Deych, M. YE.; Troyanovskiy, B. M.

printed.

TOPIC TAGS: axial turbine

PURPOSE AND COVERAGE: The book examines methods and results of experimental investigation of turbine lattices and stages, methods of thermal and aerodynamic calculation, and ... axial gas ... various ... [illegible]

bines. The book can ... polytechnic institutes.

Card 1/2

L [illegible]
ACCESSION NR [illegible]

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Ch. VIII. Final stages of steam turbines -- [illegible]
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SUB CODE: [illegible] SUBMITTED: [illegible] NR REF Sov: [illegible]
OTHER: 035

Card 2/2

BUZIN, D.P., inzh.; BENENSON, Ye.I., inzh.; GOL'DBERG, I.I., inzh.; MAYORSKIY, Ye.V., inzh.; TROYANOVSKIY, B.M., kand. tekhn. nauk, dotsent

Experience in designing the terminal stage of a large steam turbine. Energomashinostroenie 10 no.8:1-3 Ag '64. (MIRA 17:11)

TROYANOVSKIY, B.M., kand. tekhn. nauk, dotsent

Effect of the final pressure on the operation of the terminal stage of a condensing turbine. Izv. vys. ucheb. zav.; energ. 8 no.5:57-62 My '65. (MIRA 18:6)

1. Moskovskiy ordena Lenina energeticheskiy institut.

L 10648-66 EWT(m)/EWP(w)/EWP(f)/EWP(v)/T-2/EWP(k)/ETC(m) WW/EM

ACC NR: AP5028748 SOURCE CODE: UR/0096/65/000/012/0069/0072

AUTHOR: Mayorskiy, Ye. V. (Engineer,Dissertant); Troyanovskiy, B. M. (Candidate of technical sciences)

ORG: Moscow Power Institute (Moskovskiy energeticheskiy institut)

TITLE: Experimental investigation of a supersonic flow in turbine cascades

SOURCE: Teploenergetika, no. 12, 1965

TOPIC TAGS: turbine cascade, turbine blade, supersonic flow

ABSTRACT: The article presents results of an experimental investigation of turbine cascades with straight or slightly curved blades at small effective exit angles ($\leq 16°$) and at supersonic velocities. The experiments were conducted using the Moscow Power Institute wind tunnel with a closed test section 70 mm high and using pure air at initial temperatures of 120—180C. The investigated nozzle cascades had blades with a chord $b \approx 70$ mm and $\bar{t} = t/b = 0.55$. Based on the analysis of static pressure distribution along the blade and visual observation of the flow in the boundary layer, curves of the shock formation were obtained. At subsonic flow regimes, a laminal boundary layer was observed along the concave portion and the back of the blade. In the region of positive pressure gradient, a transition from laminal to turbulent flow takes place. The tests conducted with blade cascades having a discontinuity in the profile showed reduced losses over a wide range of Mach numbers. Orig. art. has: 7 figures. [AV]

Card 1/1 UDC: 621.165.533.6.001.5

L 10643-66

ACC NR: AP5028748 O

SUB CODE: 10 SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 4169

HW

Card 2/2

KAZINTSEV, F.V., inzh.; TROYANOVSKIY, B.M., kand.tekhn.nauk; ZANIN, A.I., inzh.

Study of a steam turbine stage with d/l=2,75. Teploenergetika 12 no.1:35-39 Ja '65. (MIRA 18:4

1. Moskovskiy energeticheskiy institut.

TROYANOVSKIY, B.M., kand.tekhn.nauk, dotsent

Calculation of a group of steam and gas turbine model stages.
Energomashinostroenie. 11 no.2:40-41 F '65. (MIRA 18:4)

DEYCH, M.Ye., doktor tekhn. nauk, prof.; TROYANOVSKIY, B.M., kand. tekhn. nauk; KISELEV, L.Ye., inzh.; KRUPENNIKOV, B.N., inzh.

Study of an annular large-fan turbine cascade. Teploenergetika 11 no.11:26-30 N '64. (MIRA 17:12)

1. Moskovskiy energeticheskiy institut.

TROYANOVSKIY, B.M., kand. tekhn. nauk, dotsent; KAZNEVSKIY, F.V., inzh.; ZAKIN, A.I., inzh.

Increase of stage efficiency resulting from the replacement of stamped nozzle blades with milled ones. Energomashinostroenie 10 no.6:39-40 Je '64. (MIRA 17:9)

TROYANOVSKIY, B.M., kand. tekhn. nauk

Variable operation of the terminal stages of condensing steam turbines. Teploenergetika 11 no.7:26-31 Jl '64.
(MIRA 17:8)

1. Moskovskiy energeticheskiy institut.

TROYANOVSKIY, B.M., kand.tekhn.nauk, dotsent; MAYORSKIY, Ye.V.

Study of the nozzle cascades of the terminal stages of steam turbines. Izv. vys. ucheb. zav.; energ. 6 no.10:55-61 O '63. (MIRA 16:12)

1. Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena kafedroy parovykh i gazovykh turbin.

DEYCH, M.Ye.; TROYANOVSKIY, B.M.; Prinimal uchastiye KAZINTSEV, F.V., inzh.; ZAL'F, G.A., doktor tekhn. nauk, retsenzent; PALEYEV, N.M., inzh., red.

[Investigations and calculations of the stages of axial-flow turbines] Issledovaniia i raschety stupenei osevykh turbin. Moskva, Izd-vo "Mashinostroenie," 1964. 627 p.
(MIRA 17:5)

TROYANOVSKIY, B.M.; MAYORSKIY, Ye.V.

Effect of Reynold's criterion on the characteristics of supersonic lattices. Trudy MEI no.47:49-54 '63. (MIRA 17:1)

TROYANOVSKIY, B.M.

Calculation of the terminal stages of condensing steam turbines. Trudy MEI no.47:55-62 '63. (MIRA 17:1)

TROYANOVSKIY, B.M., kand.tekhn.nauk, dotsent; MAYORSKIY, Ye.V., inzh.

Study of turbine cascades in a steampipe. Energomashinostroenie 9 no.6:39-40 Je '63. (MIRA 16:9)

TROYANOVSKIY, B.M., kand.tekhn.nauk, dotsent; MAYORSKIY, Ye.V., inzh.

Study of the lattices of the working blades of terminal steam turbine stages. Izv.vys.ucheb.zav.; energ. 5 no.5:71-75 My '62. (MIRA 15:5)

1. Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena kafedroy parovykh i gazovykh turbin.
(Steam turbines)

TROYANOVSKIY, B.M., kand.tekhn.nauk, dotsent; KAZINTSEV, F.V., inzh.;
KISELEV, L.Ye., inzh.; KRUPENNIKOV, B.N., inzh.

Studying the last stages of condensation steam turbines.
Energomashinostroenie 8 no.3:26-29 Mr '62. (MIRA 15:2)
(Steam turbines--Testing)

S/096/62/000/006/005/011
E194/E454

AUTHORS: Abramov, V.I., Engineer,
Troyanovskiy, B.M., Candidate of Technical Sciences

TITLE: Optimum characteristics of a turbine stage with partial admission

PERIODICAL: Teploenergetika, no.6, 1962, 31-34

TEXT: In designing the regulating stages of steam turbines and stages of gas and steam turbines with low volume throughput using partial admission, selection of the angle of arc over which admission should take place is an important problem. Existing methods of calculation have various disadvantages such as incorrect distribution of losses with partial delivery and not allowing for twist in the nozzle blades and, in the case of impulse stages, the methods are based on obsolete combinations of blading. The method here described attempts to overcome these difficulties. The efficiency equation adopted and various simplifying assumptions are discussed. Losses with partial delivery are

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Optimum characteristics ...

first investigated for the case when only a single delivery arc is used and the losses are considered not as the algebraic sum of a number of individual losses but rather as due to the interaction of various factors, this leads to the following formula which differs in structure from those usually adopted

$$\zeta_e = A \left(k_1 \frac{u/c_o}{d \sin \alpha_1} + k_2 \frac{1 - e}{e} \right)^2 \eta_{f.a.}$$

where $\eta_{f.a.}$ - efficiency of the stage with full admission except friction loss due to disc and banding; u/c_o - velocity ratio; e - the admission angle ratio; d - the mean stage diameter; α_1 - the nozzle blading inlet angle; A, k_1 and k_2 - numerical coefficients that depend on the type of stage. Ohlsson's formula (Partial admission, low aspect ratios and supersonic speed in small turbines, Thesis Mit, 1956) is used if there is more than one arc of delivery and a formula of P.Suter and W.Traupel is used to correct for the presence of a casing. It is then found that the maximum internal efficiency corresponds to the

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Optimum characteristics ...

admission angle ratio $e_{opt} = k\sqrt{l_1}$

l_1 being blade length in mm. The value of k depends on the type of stage and the percentage reaction of the blading. It is given in the form of experimental curves and typical values for a single row stage with straight blades lie between 0.16 with a velocity ratio u/c_o of 0.30 and 0.25 with a velocity ratio of 0.50; if twisted blades are used the corresponding values are 0.19 and 0.28. Thus, with a stage diameter of 1 m, an inlet angle of 15° and $u/c_o = 0.5$, it becomes inadvisable to use the normal type of partial admission with blade heights of 14 to 15 mm, and for stages with twisted blades with blade heights of 11 to 12 mm. This is in agreement with experiment. Within normal limits the inlet angle and blade width have little influence on the results but the influence of stage diameter is more complicated and is discussed at some length. Simultaneous selection of optimum admission angle ratio and percentage reaction for a given blading area and diameter is considered. As it is

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Optimum characteristics ...

not always possible to use the optimum admission angle ratio, curves are given of efficiency decrease on departing from the optimum value. Although the curves given in the article for the optimum characteristics of single row stages and impulse stages with partial steam delivery are not universal, they should be of assistance in turbine design although further experimental work could undoubtedly lead to minor improvements. There are 5 figures.

ASSOCIATION: Moskovskiy energeticheskiy institut
(Moscow Power Engineering Institute)

Card 4/4

GUBAREV, A.V.; KAZINTSEV, F.V.; TROYANOVSKIY, B.M.

"Aerodynamic experiment in machinery construction" by I.L.Povkh.
Reviewed by A.V. Gubarev, F.V. Kazintsev, B.M. Troianovskii.
Energomashinostroenie 6 no.8:44 Ag '60. (MIRA 14:9)
(Machinery--Aerodynamics)
(Povkh, I.L.)

TROYANOVSKIY, B.M., kand.tekhn.nauk; KISELEV, L.Ye., inzh.; FILIPPOVA, V.G., inzh.

Methods for calculating two-row velocity stages. Energomashinostroenie 6 no.5:3-6 My '60. (MIRA 13:9)
(Steam turbines)

SOV/96-59-4-7/21

AUTHORS: Deych, M.Ye., Doctor of Technical Sciences;
Troyanovskiy, B.M., Candidate of Technical Sciences;
Kazintsev, F.V., Engineer and
Abramov, V.I., Engineer

TITLE: An Investigation of a Series of Single-row Stages
(Issledovaniye serii odnovenechnykh stupeney)

PERIODICAL: Teploenergetika, 1959, Nr 4, pp 38-43 (USSR)

ABSTRACT: A number of types of nozzle and working blading for turbines have been developed in the Moscow Power Institute. These can be combined in various ways in single- and two-row stages. Tests results on a number of two-row velocity stages have already been published in Teploenergetika, 1958, Nr 5. Six combinations of single-row stages were made up of blading intended for operation at subsonic and sonic velocities. The stage combinations consisted of two nozzle and three working blades. All the stages were 534 mm diameter, 25 mm nozzle blade height and 28 mm working blade height and were all of the same width. A stage diagram is given in Fig.1. The experimental steam turbine and the procedure used were the same as described in Teploenergetika, 1957, Nr 5. Particulars of the stages

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An Investigation of a Series of Single-row Stages

tests are tabulated. The stages were first tested with full steam supply. Experimental internal efficiency data for stage KD-2-2A are given in Fig.2. Where high supersonic speeds are used the blading losses increase and the stage efficiency is reduced. Fig.3 gives losses in nozzle blading TS-2A and the internal efficiency of stage KD-2-2A. Mean reaction curves for stage KD-2-2A are given in Fig.4. Internal efficiency curves for all six combinations investigated are given in Fig.5 and the results are discussed. Stage KD-2-2A was then tested with partial steam supply. Curves of the relative internal efficiency of the stage are given in Fig.6. Internal efficiency curves for the stage with different angles of steam delivery are given in Fig.7. It will be seen that the stage efficiency is much reduced with partial steam supply. This and other test results are discussed and are stated to be fully in accordance with theoretical expectations. The influence of nozzle diaphragm widths on stage efficiency of KD-2-1A was then investigated and

An Investigation of a Series of Single-row Stages

the results are given in Fig.8. It is clearly shown that the stage efficiency falls off with a wide diaphragm and this is because the tests were made outside the zone of best width. The efficiencies of single- and two-row stages are then compared. The test results for two such stages are given in Fig.10 and show the conditions under which one or other of the two regulating stages should be selected. The number of unregulated stages and other constructional features of a machine vary considerably depending on the type of regulating stage used. A detailed analysis of this problem falls outside the scope of the present article. It is concluded that the single-row stages investigated are of high efficiency, particularly the stages KD-2-2A and KD-1-2A. If the gaps are right and the blading is correctly chosen a small negative reaction has little influence on the efficiency of a single row stage with short blades. On the basis of the tests it is considered that for the high and medium pressure cylinders of turbines the best two combinations are KD-2-2A and KD-1-2A composed of blade profiles TS-2A, TR-2A, TS-1A and TR-2A. Investigations on stage KD-2-2A with partial

An Investigation of a Series of Single-row Stages

steam supply and various numbers of nozzles showed that the important effect of additional losses and secondary effects associated with partial steam supplies. Comparison of single- and two-row stages made of the new improved blade profiles shows that the difference between the possible highest efficiency of these stages has been reduced and the field of application of a velocity stage has been extended. There are 10 figures, 1 table and 2 Soviet references.

ASSOCIATION: Moskovskiy Energeticheskiy Institut (Moscow Power Institute)

Card 4/4

SOV/96-59-7-23/26

AUTHORS: Deych, M.Ye., Doctor of Technical Sciences and B.M.Troyanovskiy, Candidate of Technical Sciences

TITLE: Letter to the Editor (Pis'mo v redaktsiyu)

PERIODICAL: Teploenergetika, 1959, Nr 7, pp 94-95 (USSR)

ABSTRACT: This note is in reply to a criticism by Kachuriner that the efficiencies of the new Moscow Power Institute turbine blading are not as high as is claimed. The discussion centres around the methods of testing turbine stages. There is 1 figure.

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DEYCH, M.Ye., doktor tekhn.nauk; TROYANOVSKIY, B.M., kand.tekhn.nauk
KAZINTSEV, F.V., inzh.; ABRAMOV, V.I., inzh.

Investigating a series of single-row stages. Teploenergetika 6 no.4: 38-43 Ap '59. (MIRA 12:3)

1. Moskovskiy energeticheskiy institut.
(Steam turbines)

SOV/96-59-6-6/22

AUTHOR: Troyanovskiy, B.M. (Candidate of Technical Sciences)

TITLE: Generalised Efficiency Graphs for Single-row Turbine Stages of the Moscow Power Institute (Obobshchennyye grafiki ekonomichnosti odnovenechnykh turbinnykh stupeney MEI)

PERIODICAL: Teploenergetika, 1959, Nr 6, pp 29-34 (USSR)

ABSTRACT: The Moscow Power Institute has developed a series of turbine blades intended for use with near-critical conditions (series A blades). A considerable proportion of the possible combinations of the blades in this series have been investigated in an experimental turbine and in wind tunnels with various physical and geometrical conditions. The results of these tests and of theoretical calculations may be generalised for the purpose of constructing a series of curves of relative blade efficiency of a single-row stage with full steam supply. The stage efficiency calculated from these curves does not include losses due to friction of the disc running in steam, or due to steam leakage through diaphragm glands. Graphs of efficiency as a function of velocity ratio for various blade lengths are given in Fig 1. These curves

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Generalised Efficiency Graphs for Single-Row Turbine Stages of the Moscow Power Institute

are plotted for the case of total loss of outlet velocity. The blading and experimental conditions for which the results given in Fig 1 are valid are stated. The results may be applied to a wider range of conditions and arrangements by appropriate correction factors. Correction factors for the pressure ratio in the stage and for the ratio of the area of the runner blading channels to that of the nozzle blading channels are presented in Fig 2. The reduction in efficiency at low values of Reynolds number may be calculated from the graph given in Fig 3. The correction for the ratio of nozzle blade length to diameter is provided in Fig 4. Other factors associated with blade geometry may be corrected for by the graphs given in Figs 5 and 6. The graphs in Figs 7, 8a and 8b may be used to calculate the influence of steam leakage over the blade shrouds, by a method which is explained. The reaction in the blade root section of the stage may be determined from the graphs of Fig 9a. If steam is drawn in through the root gap the correction may be determined from the graph

Generalised Efficiency Graphs for Single-Row Turbine Stages of the Moscow Power Institute

given in Fig 9b. If the following stages utilise the kinetic energy of the axial component of the outlet velocity of the stage under consideration, so that the stage efficiency is increased, then the corresponding factor may be determined from Fig 10. A numerical example of turbine efficiency determination is then given. Next there is a list of the test results upon which the generalised graphs of efficiency given above are based. Special features of the tests are described and their limitations explained. For example, further experimental work is required on the influence of the Reynolds number. Also, the tests on the experimental turbine of the Moscow Power Institute were made on single row stages of 400 to 534 mm diameter; hence the efficiency curves given in Figs 1 and 4 give low efficiencies for stages of large diameters. It is expected that the Moscow Power Institute's special investigation of the influence of diameter and the scale effect will soon be completed. The curves of the American General Electric Company are frequently encountered in the literature and in practice.

Generalised Efficiency Graphs for Single-Row Turbine Stages of the Moscow Power Institute

Comparison of the G.E. curves with those given in Fig 1 shows that if the nozzle blade length is greater than 30 mm the Moscow Power Institute's stages are of higher efficiency. For lengths less than 30 mm the G.E. efficiencies are somewhat higher, partly because the Moscow Power Institute curves are constructed for welded diagrams whereas the G.E. curves are not, and partly because with lengths of 15 to 30 mm and d/l = 20 the stage diameter is only 450 to 600 mm, which is about half the corresponding value in the G.E. stages. The Moscow Power Institute stages are more stable under variable conditions. Curves of the Neva Works, Leningrad, published in Energomashinostroyeniye Nr 10, 1956, give somewhat lower efficiency than those in Fig 1; they are constructed for a stage 1 m diameter with no radial glands beyond the shrouds and with an open axial gap of 1.5 mm. The stage efficiencies calculated from the

Generalised Efficiency Graphs for Single-Row Turbine Stages of the Moscow Power Institute

generalised curves are not the best obtainable. The Moscow Power Institute is now completing work on improving single-row stages of small height. There are 10 figures and 6 Soviet references.

ASSOCIATION: Moscow Power Institute (Moskovskiy Energeticheskiy Institut)

SOV/96-58-5-2/27

AUTHORS: Deych, M.Ye., Doctor of Technical Sciences, Troyanovskiy, B.M., Candidate of Technical Sciences and Kazintsev, F.V., Abramov, V.I., Engineers

TITLE: Comparative Tests on a Two-row Velocity Stage (Sravnitel'-nyye issledovaniya dvukhvenechnykh stupeney skorosti)

PERIODICAL: Teploenergetika, 1958, Nr 5, pp 9 - 16 (USSR).

ABSTRACT: Work done at the MEI (Moscow Power Institute) has led to the development of several two-row velocity wheels. One of these, stage KS-1A, was thoroughly tested in the experimental steam turbine of the Moscow Power Institute. The experimental procedure and test result were described in an article in Teploenergetika, 1957, Nr 5. They relate to a wheel with a mean diameter of 400 mm and a nozzle height of 15 mm and another with a diameter of 534 mm and height of 20 mm. Tests were also made on a stage, type KS-1A-3, with a wheel diameter of 668 mm and nozzle height of 25 mm. Curves of the internal efficiency of this stage with full steam supply are given in Figure 1. Thus, test results were obtained on three identical stages with constant d/l ratio and different absolute values of d and l. As will be seen from the table, the area ratios differed for each stage and this affected the stage reaction to some extent. Graphs of the mean total reaction for velocity stage

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Comparative Tests on a Two-row Velocity Stage

KS-1A are given in Figure 2. The results of the tests on the three stages are then compared. The effect of blade height on stage efficiency is shown in Figure 3.
It is of particular interest to compare the results for the new stages with best Soviet and foreign practice. Therefore, a detailed investigation was made of a two-row stage, type Nr 113, manufactured by the LKZ. The dimensions and clearances of stages KS-1A-3 and stage Nr 113 are given in dimensioned sketches, Figure 4. Test results for stage Nr 113 with full steam supply are given in Figure 5. The maximum internal efficiency was 71%: the total mean reaction of the stage, plotted in Figure 6, is in practically linear relationship with the velocity ratio and increases with increase of the heat drop on the stage. The steam consumption of stage Nr 113 is plotted in Figure 7.
Tests were also made with different axial gaps. When the axial gap between the outlet edge of the nozzle and the inlet edges of the working blades of the first row is altered from 2.5 to 5.5 mm, the stage efficiency falls, as shown in Figure 8. The tests were made with the radial and all other axial gaps constant.

Comparative Tests on a Two-row Velocity Stage

Investigations were then made on stage Nr 113 with steam supplied over only part of the arc; the gaps were unchanged and no special shields were used. The effect of partial steam-supply on the internal efficiency is shown graphically in Figure 9 and data on the mean total stage reaction are given in Figure 10. It follows from the results that different procedures should be used in selecting the design stage reaction for full and for partial steam supply.
Velocity stages with expanding nozzles are used for operation at high supersonic drops. Two-row stages with expanding nozzles were investigated. One had the same working and guide blades as type Nr 113 with contracting nozzles as described above; the other had straighter-bladed guide vanes similar in shape to those of a compressor. The blade geometry is discussed.
The graph of internal efficiency for stage Nr 113 with expanding nozzles and full steam supply is given in Fig 11. The efficiency is appreciably lower than for a stage with contracting nozzles.
The efficiency and test results of different velocity stages are then compared, noting, however that the procedures are still

insufficiently developed. Even stages tested in one and the same turbine differ in their geometrical characteristic in a way which affects the efficiency. Various methods are used in this article to compare velocity stages,
Internal efficiency curves with full steam supply for all stages are shown in Figure 12: all stages were tested in the same experimental turbine, using the same procedure. The best results were obtained with the Moscow Power Institute stage KS-1A-3 with a mean wheel diameter of 668 mm and a nozzle height of 25 mm. Here, the maximum efficiency is 81% but cannot be compared directly with stage Nr 113 because of the considerable difference in dimensions. However, if the curves of the KGTZ (Khar'kov Turbo-generator Works) are used to recalculate the results for stage Nr 113 to the dimensions of stage KS-1A-3, its efficiency is increased by only 2.5% and becomes 73.8%. The stage efficiencies of different wheels are then discussed; the internal efficiencies of velocity stages KS-1A-2 (with welded diaphragm) and of stage Nr 113 as a function of nozzle area are given in Figure 13. Throughout the range, the efficiency of stage KS-1A-2 is higher.

Comparative Tests on a Two-row Velocity Stage SOV/96-58-5-2/27

It is concluded that stage Nr 113 is of satisfactory efficiency under sub-critical conditions but beyond this it drops markedly and is still worse with expanding nozzles. However, the Moscow Power Institute stage KS-1A with a nozzle height of 25 mm and a diameter of 648 mm had the very high maximum internal efficiency of 81%, which confirmed the high efficiency of this combination at a low degree of reaction. Stage KS-1A was better than stage Nr 113 in efficiency and stability, particularly with partial steam supply. It should be borne in mind that stage Nr 113 is more carefully manufactured and has assembled milled nozzles, whereas stage KS-1A was tested with a welded diaphragm. There are 13 figures, 1 table and 1 Soviet reference.

ASSOCIATION: MEI

Card 5/5

1. Turbine wheels--Design 2. Turbine wheels--Test results
3. Turbine wheels--Effectiveness

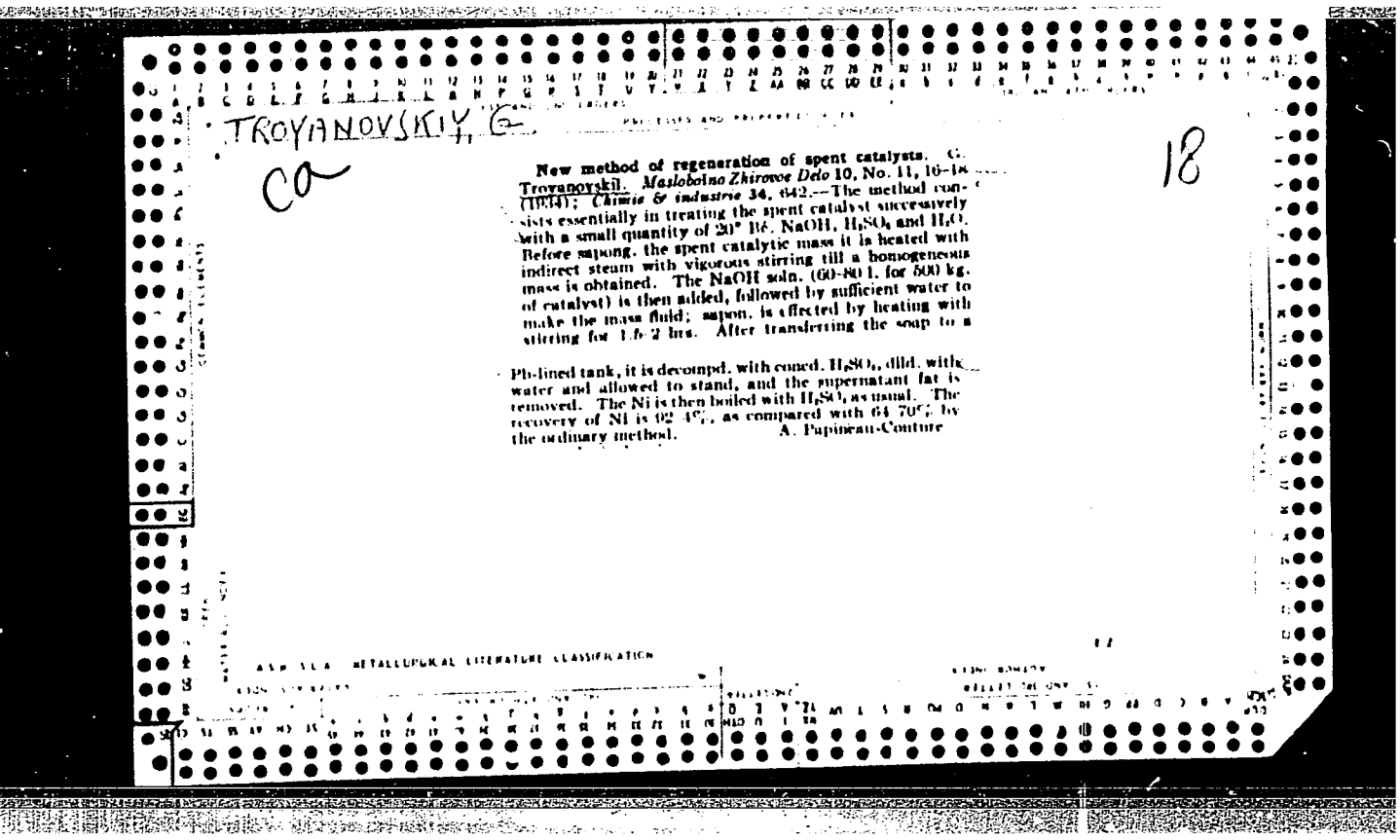
SHCHEGLYAYEV, Andrey Vladimirovich; TROYANOVSKIY, B.M., redaktor; VORONIN, K.P., tekhnicheskiy redaktor.

[Steam turbines; theory of the thermal process and the elements of turbines] Parovye turbiny; teoriia teplovogo protsessa i konstruktsii turbin. Izd.3-e, perer. i dop. Moskva, Gos.energ. izd-vo, 1955. 320 p. 6 plans. (MLRA 8:12)
(Steam turbines)

LARIONOV, L.F., BOGOMAZ, L.A., DMITRIYEVA, Ye.V., IZVOLININA, Ye.I.
RAKHAYEVA, O.I., TROYANOVSKIY, D.L. (Leningrad)

Sarcolysin therapy in multiple myeloma. Vrach.delo no.8:857-858
Ag '58 (MIRA 11:8)

1. Bol'nitsa imeni Sverdlova.
(MARROW--TUMORS)
(CYTOTOXIC DRUGS)



TROYANOVSKIY, G.

CA

18

New method of regeneration of spent catalysts. G. Troyanovskii. *Maslobolno Zhirovoe Delo* 10, No. 11, 16-18 (1944); *Chimie & industrie* 54, 642.—The method consists essentially in treating the spent catalyst successively with a small quantity of 20° Bé. NaOH, H_2SO_4 and H_2O. Before sapong. the spent catalytic mass it is heated with indirect steam with vigorous stirring till a homogeneous mass is obtained. The NaOH soln. (60-80 l. for 500 kg. of catalyst) is then added, followed by sufficient water to make the mass fluid; sapon. is effected by heating with stirring for 1.5-2 hrs. After transferring the soap to a Pb-lined tank, it is decompd. with concd. H_2SO_4, dild. with water and allowed to stand, and the supernatant fat is removed. The Ni is then boiled with H_2SO_4 as usual. The recovery of Ni is 92.4%, as compared with 64.70% by the ordinary method.

A. Papineau-Couture

POLAND/General and Special Zoology - Insects. P.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30626

Author : Troyanovskiy, H.
Inst :
Title : The Use of a Hand Aerosol Apparatus for the Control of Forest Pests.

Orig Pub : Las polski, 1957, 31, No 14, 14-15.

Abstract : No abstract.

Card 1/1

rotational molding of master forms. Furthermore, rotational molding was tested for the production of irregularly shaped parts. The mechanical characteristics of AST-T plastic products are given: impact strength 11 - 13.5 kg·cm/cm^2; Martens heat resistance 50°C; Brinell hardness 13-19 kg/cm^2 compression strength 800 - 1000 kg/cm^2; bending strength 550 - 950 kg/cm^2; tensile strength 450 - 550 kg/cm^2; shearing strength 500 - 550 kg/cm^2; water adsorption 0.14%; resistant to acids, oils and alkalis at 20°C. There are 3 figures and 1 table.

SHTURMAN, A.A.; TROYANOVSKIY, L.M.

Method for a centrifugal molding of articles from the AST-T plastic material. Plast. massy no.3:59-61 '63.
(MIRA 16:4)

(Plastics--Molding)

TROYANOVSKIY, L.M.

Work practice of the Naumovka Distillery. Spirt. prom. 22 no.4: 17-19 '56. (MLRA 10:2)

1. Khar'kovskiy spirtovyy trest.
(Distilling industries--Equipment and supplies)

L 40201-66 EWT(m)/EWP(j)/T IJP(c) DS/RM

ACC NR: AP6029791 SOURCE CODE: UR/0119/66/000/008/0014/0014

AUTHOR: Levin, V. M. (Candidate of technical sciences); Troyanovskiy, L. M. (Engineer)

ORG: none

56
B

TITLE: A new method for hermetic sealing of electrical conductors in a layer of teflon

SOURCE: Priborostroyeniye, no. 8, 1966, 14

TOPIC TAGS: electrode, hermetic seal, teflon, flow meter, ELECTRODE WIRE

ABSTRACT: A method for making hermetically-sealed electrode connections using teflon is described. The method is intended for use with such measuring devices as flowmeters. The electrode (see Fig. 1) consists of a thin wire with a diameter of 0.3—0.5 mm made of tungsten, stainless steel, titanium or tantalium soldered to a supporting steel disc. A 4 mm teflon lining is force-fitted into the flow meter tube and a small hole is drilled through the tube and part of the lining. The remaining thickness of the teflon shield is then pierced with the

Card 1/2 UDC: 62.762

ACC NR: AP6029791

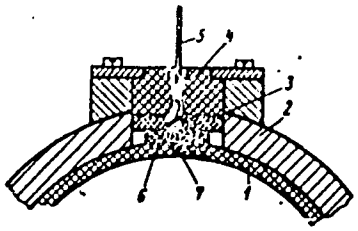


Fig. 1. Electrode diagram

1 - Teflon shield;
2 - flow meter tube;
3 - flexible washer;
4 - insulating collar;
5 - output lead;
6 - supporting disc;
7 - electrode.

electrode and the device is calibrated. The electrode operates at pressures up to 30 kg/cm^2 and has been used in several types of commercial flow meters. Orig. art. has: 1 figure. [IV]

SUB CODE: 09, 11/ SUBM DATE: none

Card 2/2 fv

SOV/ 20-120-2-24/63

AUTHORS: Losev, B. I., Troyanskaya, M. A., Bylyna, E. A.

TITLE: The Influence Exerted by γ-Radiation Upon Coals in Aqueous and Carbon-Tetrachloride Medium (Deystviye γ-izlucheniya na ugli v vodnoy srede i v srede chetyrekhkhloristogo ugleroda)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 2, pp. 314 - 315 (USSR)

ABSTRACT: From the papers on the water radiolysis (References 1,2) it is known that ions and free radicals form under the influence of ionizing radiations and in the presence of atmospheric oxygen. These are capable of bringing about an oxidation or reduction of substances added to the irradiated aqueous system. It could be expected that a γ-radiation in an aqueous medium would lead to chemical changes of the most reactive part of the organic substance of the coals, whereby the germanium contained in the coal would pass over into the aqueous medium. Besides the products of a radiolytic oxidation of the coals could be investigated and identified. The dose of irradiation was 200 r/sec and the integral dose 10^8 r. Co^{60} served as source of the γ-rays.

Card 1/ 4

The Influence Exerted by γ-Radiation Upon Coals in Aqueous and Carbon-Tetrachloride Medium SOV/20-120-2-24/63

4 types of coal were investigated: brown coal of the Podmoskovnyy basin and 3 sorts of the Donetskiy basin. The germanium content in 2 of the latter was low. The maximum yield of germanium was obtained of the Donets type PZh (50,2%) and of the brown coal (41,0%). The chlorination method (References 3-5) was used for further increasing the yield of germanium. Elementary chlorine is used for it. By more intensively chlorinating means such as sulfur monochloride, carbon tetrachloride and others this method can be considerably extended. As CCl_4 yields free chlorine as main product by γ-irradiation, the authors irradiated coal samples in CCl_4. The transition from germanium into the liquid phase of the coals of the Donets types "G" and "K" was insignificant at an integral dose of radiation of 10^6 and 10^7. At a dose of 10^8 the yield of germanium of the coke-coal amounted to 13%, of the gas-coal to only 5,6% of the total content. 53% germanium was produced of the type PZh (table 2). A complete extraction was obtained of the dried brown coal in dry CCl_4 (table 2). At an integral dose of 10^8 the entire ger-

Card 2/4

manium passes over into the liquid phase and can from there be produced by means of the known methods. The degree of extraction of germanium is not only dependent on the dose of irradiation but also on the amount of water present in the system. Besides the described use of CCl_4 for radiolysis an increased solubility of coals in CCl_4 after a γ-irradiation was also observed which may be of interest from the standpoint of the chemical working of coals. There are 2 tables and 8 references, 6 of which are Soviet.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR (Institute of Fossil Fuel AS USSR)

PRESENTED: January 13, 1958, by A. V. Topchiyev, Member, Academy of Sciences, USSR

SUBMITTED: January 10, 1958

The Influence Exerted by γ -Radiation Upon Coals in Aqueous and Carbon-Tetrachloride Medium Sov/20-120-2-24/63

1. Coal--Effects of radiation 2. Gamma rays--Applications 3. Cobalt isotopes(Radioactive)--Applications 4. Solutions --Applications 5. Carbon tetrachloride--Applications

Card 4/4

TROYANOVSKIY, M.V.; BATALOV, V.I.

Cutting external conic thread. Stan. i instr. 36 no.6:39 Je '65. (MIRA 18:8)

TROYANOVSKIY, M.V.

Milling attachment for automatic lathes. Stan.i instr. 30 no.4:34 Ap '59. (MIRA 12:6)
(Lathes--Attachments)

TROYANOVSKIY, M.V.

Experience in exploiting the technological possibilities of existing equipment. Stan.i instr. 25 no.2:1-4 F '54. (MLRA 7:5)
(Machine tools)

TROYANOVSKIY, M.V.

Using pneumatic drives in the mechanization and automation of technological processes. Stan i instr. 35 no.2:40-41 F'64
(MIRA 17:3)

TROYANOVSKIY, M. V.

USSR/ Engineering - Industrial equipment

Card 1/1 Pub. 103 - 1/23

Authors : Troyanovskiy, M. V.

Title : Utilization of the technological possibilities of the available industrial equipment

Periodical : Stan. i instr. 2, 1-4, Feb. 1954

Abstract : Appeal is made to machine construction engineers and technologists to increase the productivity of available machines, to improve the quality of goods manufactured and reduce the production costs without having to increase the industrial facilities and without large capital investments. Various suggestions on how to exploit the maximum capacity of available machines are included. Drawings.

Institution : .....

Submitted : .....

L 45600-66 EWT(d)/EWT(l)/EWP(e)/EWT(m)/EWP(v)/EWP(k)/EWP(h)/EWP(l) JD/WH

ACC NR: AT6014332 SOURCE CODE: UR/2529/62/000/070/0144/0158

AUTHOR: Yunusov, F. S.; Troyanskiy, N. S.

ORG: None

TITLE: Grinding complex surfaces on the LSh-1A grinder

SOURCE: Kazan. Aviatsionnyy institut. Trudy, no. 70, 1962. Aviatsionnaya tekhnologiya i organizatsiya proizvodstva (Aviation engineering and organization of production), 144-158

TOPIC TAGS: abrasive, grinding, grinding machine, shaping device

ABSTRACT: The authors discuss various problems encountered in using an abrasive band for grinding three-dimensional complex shapes. The abrasive band is an elastic instrument whose work capacity depends on contact with the machined surface. Band grinding is normally accomplished by using a working contact-roller with a radial generatrix. The abrasive band passes over the working roller and conforms to its shape. However, in machining noncircular surfaces, contact between the abrasive band and the roller varies. As a result of this, the cutting angle, chip cross section and stresses vary, These changes in the abrasive band produce uneven elongation and destruction of the binding and abrasive. To avoid this a rotatable grinding head has been introduced. Rotatable heads ensure a right angle between the axis of rotation of the working roller

Card 1/2

L 45600-66

ACC NR: AT6014332

and the normal to the machined surface. The kinematic diagram of special machine tools equipped with rotatable grinding heads does not differ from that for the LSh-1A special duplicating-grinder equipped with a swinging head. The authors consider the kinematic diagram of the grinding head assembly for this machine. The kinematic and hydraulic diagrams for this unit are given. The grinding head for this unit swings about the axis of the working roller. Particular attention is paid to the working contact-roller which is the basis of productivity and maximum efficiency of the abrasive band. Abrasive band photographs are given for bands used with and without grinding heads. An analysis of all of these factors may be used to determine the optimum dimensions for the eccentric and the shape of the machined part. The dimensions of the grinding head assembly are also determined. The optimum generatrix of the working roller is determined and the shape of the machined product is taken into account along with the roller width, depth of grinding and the swing angle of the grinding head. All of these factors contribute to maximum utilization of the abrasive band and the machine tool. The results of this analysis also show that an additional gear should be added in the kinematic chain for machining both convex and concave shapes. Orig. art. has: 7 figures, 23 formulas.

SUB CODE: 13/ SUBM DATE: 15Mar61/ ORIG REF: 002/

Card 2/2

TROYANOVSKIY, Pavel

First-class passenger. Rabotnitsa 37 no.9:9-11 S '59. (MIRA 13:1)

(China--Women)

Abramovskiy, S.K.

ABRAMOV, S.K., kand.tekhn.nauk; AVERSHIN, S.G., prof., doktor tekhn.nauk; AMMOSOV, I.I., doktor geol.-min.nauk; ANDRIYEVSKIY, V.D., inzh.; ANTROPOV, A.N., inzh.; AF'ANAS'YEV, B.L., inzh.; BERGMAN, Ya.V., inzh.; BLOKHA, Ye.Ye., inzh.; BOGACHEVA, Ye.N., inzh.; BUKRINSKIY, V.A., kand.tekhn.nauk; VASIL'YEV, P.V., doktor geol.-min.nauk; VINOGRADOV, B.G., inzh.; GOLUBEV, S.A., inzh.; GORDIYENKO, P.D., inzh.; GUSEV, N.A., kand.tekhn.nauk; DOROKHIN, I.V., kand.geol.-min.nauk; KALMYKOV, G.S., inzh.; KASATOCHKIN, V.I., doktor khim.nauk; KOROLEV, I.V., inzh.; KOSTLIVTSEV, A.A., inzh.; KRATKOVSKIY, L.F., inzh.; KRASHENINNIKOV, G.F., prof. doktor geol.-min.nauk; KRIKUNOV, L.A., inzh.; LEVIT, D.Ye., inzh.; LISITSA, I.G., kand.tekhn.nauk; LUSHNIKOV, V.A., inzh.; MATVEYEV, A.K., dots., kand.geol.-min.nauk; MEPURISHVILI, G.Ye., inzh.; MIRONOV, K.V., inzh.; MOLCHANOV, I.I., inzh.; NAUMOVA, S.N., starshiy nauchnyy sotrudnik; NIKIPELOV, V.Ye., inzh., PAVLOV, F.F., doktor tekhn.nauk; PANYUKOV, P.N., doktor geol.-min.nauk; POPOV, V.S., inzh.; PYATLIN, M.P., kand.tekhn. nauk; RASHKOVSKIY, Ya.Z., inzh.; ROMANOV, V.A., prof., doktor tekhn. nauk; RYZHOV, P.A., prof., doktor tekhn.nauk; SELYATITSKIY, G.A., inzh.; SPERANSKIY, M.A., inzh.; TRENT'YEV, Ye.V., inzh.; TITOV, N.G., doktor khim.nauk; GOKAREV, I.F., inzh.; TROYANSKIY, S.V., prof., doktor geol.-min.nauk; FEDOROV, B.D., dots., kand.tekhn.nauk; FEDOROV, V.S., inzh. [deceased]; KHOMENTOVSKIY, A.S., prof., doktor geol.-min.nauk; TROYANOVSKIY, S.V., otvetstvennyy red.; TERPIGOREV, A.M., red.; KRIKUNOV, L.A., red.; KUZNETSOV, I.A., red.; MIRONOV, K.V., red.; AVERSHIN, S.G., red.; BURTSEV, M.P., red.; VASIL'YEV, P.V., red.; MOLCHANOV, I.I., red.; RYZHOV, P.A., red.; BALANDIN, V.V., inzh., red.; BLOKH, I.M., kand. tekhn.nauk, red.; BUKRINSKIY, V.A., kand.tekhn.nauk, red.; VOLKOV, K.Yu., inzh., red.; VOROB'YEV, A.A., inzh., red.; ZVONAREV, K.A., prof. doktor tekhn.nauk, red.

(Continued on next card)

ABRAMOV, S.K.--- (continued) Card 2.

ZDANOVICH, V.G., prof.,doktor tekhn.nauk,red.; IVANOV, G.A., doktor geol.-min.nauk, red.; KARAVAYEV, N.M., red.; KOROTKOV, G.V., kand.geol.-min.nauk, red.; KOROTKOV, M.V., kand.tekhn.nauk, red.; MAKKAVEYEV, A.A., doktor geol.-min.nauk, red.; OMEL'CHENKO, A.N.,kand.tekhn.nauk,red.; SEMERZON, E.M.,kand.geol.-min.nauk, red.; USHAKOV, I.N., dots., kand. tekhn.nauk, red.; YABLOKOV, V.S., kand.geol.-min.nauk,red.; KOROLEVA, T.I., red.izd-va; KACHALKINA, Z.I., red.izd-va; PROZOROVSKAYA, F.L., tekhn.red.; NADEINSKAYA, A.A., tekhn.red.

[Mining; an encyclopedia handbook] Gornoe delo; entsiklopedicheskii spravochnik. Glav. red. A.M.Terpigorev. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po ugol'noi promyshl. Vol.2. [Geology of coal deposits and surveying] Geologiia ugol'nykh mestorozhdenii i marksheiderskoe delo. Redkolegiia toma S.V.Troianskiy, 1957. 646 p. (MIRA 11:5)

1. Chlen-korrespondent AN SSSR (for Karavayev)
(Coal geology--Dictionaries)

TROYANOVSKIY, Sergey Vasil'yevich; BELITSKIY, Aron Samoylovich; CHEKIN, Arkadiy Ivanovich; BINDEMAN, N.N., otvetstvennyy redaktor; KOTLOV, F.V., otvetstvennyy redaktor; SLAVOROSOV, A.Kh., redaktor izdatel'stva; ZAZUL'SKAYA, V.F., tekhnicheskiy redaktor

[Hydrogeology and drainage of mining areas] Gidrogeologiia i osushenie mestorozhdenii poleznykh iskopaemykh. Moskva, Ugletekhizdat, 1956. 306 p. (MLRA 10:1)

(Mine drainage) (Water, Underground)

BAKHAREV, V.; TROYANOVSKIY, V.

Effective method of ventilating and heating industrial buildings. Sots.trud.no.9:91-92 S '56. (MLRA 9:12)

1. Kazanskiy institut okhrany truda Vsesoyuznogo TSentral'nogo Soveta professional'nykh soyuzov.
(Factories--Heating and ventilation)

TROYANOVSKIY, V.A., inzh.

System for continuous insulation check in d.c. networks. Prom. energ. 17 no.6:16-18 Je '62. (MIRA 17:6)

TROYANOVSKIY, V.I.

Relation between labor productivity and the degree of mechanization of foundries. Lit. proizv. no.2:34 F '65. (MIRA 18:6)

TROYANOVSKIY, V.M., inzh.

Capacitance pickup of a level indicator. Priborostroenie no.6:21 Je '65. (MIRA 18:7)

POKROVSKIY, A.A., TROYANOVSKIY, V.M.

Gases

Apparatus for demonstrating the Boyle-Marriotte law. Fiz. v. shkole 12, no. 3, 1952.

9. Monthly List of Russian Accessions, Library of Congress, SEPTEMBER 1952 ~~1953~~ Uncl.

TROIANOVSKI, V.M. [Troyanovskiy, V.M.], dotsent k. t. n.; MUMDZHIIAN, G., dotsent k. t. n.

Modernization of steam turbines. Elektroenergiia 14 no.7:10-14 Jl '63.

1. Moskovski energetichen institut (for Troyanovskiy).
2. Mashinno-elektrotekhnicheski institut, Sofiia (for Mumdzhiian).

FOKROVSKIY, A. A., TROYANOVSKIY, V.N.

Gases

Apparatus for demonstrating the Boyle-Marriotte law. Fiz. v. shkole 12 no. 3, 1952

9. Monthly List of Russian Accessions, Library of Congress, September 1952, Uncl.

BAKHAREV, Viktor Aleksandrovich; TROYANOVSKIY, Viktor Nikolayevich; VESELKINA, A.A.; NOVOSPASSKIY, V.V.; RAKOV, S.I., tekhn.red.

[Principles of planning and designing heating and ventilating installations with concentrated output of air] Osnovy proyektirovaniia i rascheta otopleniia i ventiliatsii s sosredotochennym vypuskom vozdukha. Izd-vo VTsSPS Profizdat, 1958. 213 p. (MIRA 12:2)

(Heating) (Ventilation)

TROYANOVSKIY, V. N.

Troyanovskiy, V. N. -- "Ventilation and Heating of Damp Sections of Tanning Plants." Cand Tech Sci, Moscow Construction Engineering Inst, Moscow 1953. (Referativnyy Zhurnal--Khimiya, No 1, Jan 54)

SO: SUM 168, 22 July 1954

TROYANOVSKIY, V.N.; SHEPELEV, I.A., redaktor; NOVOSPASSKIY, V.V., redaktor; KUZ'MIN, D.G., tekhnicheskiy redaktor.

[Ventilation and heating of wet shops in tanneries] Ventiliatsiia i otoplenie mokrykh tsekhov kozhevennykh zavodov. [Moskva] Izd-vo VTsSPS Profizdat, 1953. 115 p. (MLRA 7:11)
(Factories--Heating and ventilation) (Leather industry)

TROYANOVSKIY, V. V.

Elektricheskie chasy. Moskva, Mashgiz, 1949. 138 p.

Electric clocks.

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

TROYANOVSKIY, V.V.; TARASOV, S.V., kandidat tekhnicheskikh nauk, retsenzent; YELISEYEV, B.L., redaktor; MICHALEVSKAYA, A.I., redaktor; UVAROVA, A.F., tekhnicheskiy redaktor.

[Electromechanical clocks in automobiles] Elektromekhanicheskie chasy; avtomobil'nye. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroitel'noi lit-ry, 1955. 74 p. (MLRA 8:12)
(Clocks, Electric)

TROYANOVSKIY, V. V.

Technology

Electric time systems and instruments, Moskva, Mashgiz, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952, UNCLASSIFIED

TROYANOVSKIY, V.V.

Reviews. Priborostroenie no.11:30-31 N '65.

(MIRA 18:12)

TROYANOVSKIY, Vasiliy Vasil'yevich; SOLNTSEV, A.M., inzhener, retsenzent; SIDOROV, N.V., inzhener, redaktor; POPOVA, S.M., tekhnicheskiy redaktor

[Electric clocks] Elektricheskie chasy. Izd. 3-e, perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 226 p. (MLRA 9:8)
(Clocks, Electric)

GONCHAROV, B.V. (Ufa); KAREV, V.M. (Ufa); TROYANOVSKIY, Yu.V. (Ufa)

Results of comparative tests of mobile machines for pile sinking. Osn. fund.i mekh.grun. 6 no.1:19-21 '64. (MIRA 17:2)

SHTOBBE, V.A., inzh.; TROYANOVSKIY, Yu.V., inzh.

Using the RMTs-2 machine with two cutting units for loosening frozen ground. Mekh. stroi. 19 no.9:17 S '62. (MIRA 15:9)
(Frozen ground) (Earthwork)

GONCHAROV, B.V., inzh.; TROYANOVSKIY, Yu.V., inzh.

Self-propelled concrete placer for building foundations of petrochemical plants. Prom. stroi. 41 no.5:31-32 My '64. (MIRA 18:11)

1. Bashkirskiy nauchno-issledovatel'skiy institut po stroitel'stvu.

SOV/30-58-10-9/[illegible]

AUTHORS: Losev, B. I., Mel'nikova, A. N., Saprykin, F. Ya., Troyanskaya, M. A., Bylyna, E. A.

TITLE: New Methods of Examining the Material Composition of Coal (Novyye metody izucheniya veshchestvennogo sostava ugley)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 10, pp 58-60 (USSR)

ABSTRACT: Research with the purpose of obtaining the most effective methods of extracting rare metals from coal was carried out at the Institut goryuchikh iskopayemykh Akademii nauk SSSR (Institute for Mineral Fuels of the AS USSR). For this purpose, γ-rays, ultrasonics, and electro-hydro effects were used. The influence of the dose of radiation on the yield of germanium may be seen in table 1. The second method consists of ultrasonic treatment of coal during its halogenation. The results of experiments with ultrasonic treatment of coal in water are listed in table 2. A more intensive disruption of the cohesive forces of rare elements in coal is obtained by the use of electro-hydraulic effects. These experiments were carried out in the Laboratoriya elektrogidravlicheskogo effekta Leningradskogo Politekhnicheskogo instituta (Laboratory for Electro-Hydraulic

Card 1/2

New Methods of Examining the Material Composition of Coal

Effects of the Leningrad Polytechnic Institute) under the direction of L. A. Yutkin. There are 2 tables.

5(4) SOV/69-21-3-14/25

AUTHORS: Losev, B.I. and Troyanskaya, M.A.

TITLE: The Use of Aqueous Polyvinyl Alcohol Solutions for Stabilizing Highly Concentrated Emulsions

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 3, pp 322-324 (USSR)

ABSTRACT: The authors report on a study of properties of polyvinyl alcohol, which is used as a stabilizing and solidifying agent in emulsions of the type: Motor fuel (disperse phase, representing 90% and more of the emulsion) - aqueous solution of high-molecular emulsion stabilizers. In order to obtain solidified gasoline, the authors used 10% solutions of polyvinyl alcohol with a viscosity of 40-50 centipoises and an emulsifying capacity equal to 5. The experiments fully confirmed the suitability of this procedure. It was further found that polyvinyl alcohol solutions can be mixed with other soluble stabilizers (e.g. formaldehyde), in order to increase the elasticity and solidity of

SOV/69-21-3-14/25

The Use of Aqueous Polyvinyl Alcohol Solutions for Stabilizing Highly Concentrated Emulsions

the cellular structure, which finally gives to the emulsion the character of solidified fuel. The authors give details as to the viscosity and surface tensions of polyvinyl alcohol solutions. They mention the Soviet scientist P.A. Rebinder, whose device for the measuring of surface tensions was used for the experiments. There are 2 tables and 4 Soviet references.

ASSOCIATION: Institut goryuchikh iskopayemykh AN SSSR, Moskva (Institute of Combustible Mined Matter of the AS USSR, Moscow)

SUBMITTED: 31 January, 1958

Card 2/2

BYLYNA, E.A.; LOSEV, B.I.; TROYANSKAYA, M.A. (Moskva)

Recovery of germanium from coal by gamma-ray irradiation in carbon tetrachloride. Izv. AN SSSR. Otd. tekh. nauk no.4:124-125 Ap '58. (MIRA 11:6)
(Germanium--Metallurgy) (Radiochemistry--Industrial applications)

TROYANSKAYA, M. A.

PHASE I BOOK EXPLOITATION SOV/3395

Losev, Boris Ivanovich, Mikhail Solomonovich Komskiy, and Mar'yana Aleksandrovna Troyanskaya

Tverdyy benzin; transport, khraneniye i primeneniye (Solid Gasoline: Transportation, Storage, and Use) Moscow, Gostoptekhizdat, 1959. 88 p. 5,050 copies printed.

Executive Ed.: O.M. Yenisherlova; Tech. Ed.: E.A. Mukhina.

PURPOSE: This book is intended for workers engaged in the production, transporting, storage and utilization of solid gasoline, as well as for engineers, technicians, the personnel of petroleum storage plants, motorists, members of expeditions, and camping and hunting enthusiasts.

COVERAGE: The book outlines the history of the development of methods of solidifying gasoline and briefly describes production methods for converting liquid gasoline into solid briquets. It also reviews methods of recovering liquid gasoline from briquets with the aid of

Card 1/5

Solid Gasoline; (Cont.) SOV/3395

Soviet-made regenerators. Advantages in transporting and storing solid gasoline are indicated. The solid gasoline consists of a colloidal system in which the liquid gasoline is a dispersed phase distributed over a solid dispersion medium. The process of solidification entails two consecutive operations: 1) preparation of a stable highly concentrated emulsion in which liquid gasoline is in the dispersed phase, and an aqueous solution of specially selected high-molecular compounds as the dispersion medium; 2) the solidification of the dispersion medium or its conversion to a highly viscous compound. The preparation of solid gasoline briquets requires four operations: 1) preparation of the solution of emulsifiers; 2) emulsification; 3) solidification and formation of emulsion; 4) drying of briquets. The solution of emulsifiers usually contains casein, urea-formaldehyde resin, and polyvinyl alcohol. The method of solidification described can be used also with kerosene and other fuels. The research on gasoline solidification was carried out by scientists and engineers under the guidance of B.I. Losev and M.S. Komskiy at institutes of the former Ministry of the Petroleum Industry and of the Academy of Sciences, USSR.

Card 2/5

Solid Gasoline; (Cont.)

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Troyanskaya, Mar'yana

11(7) PHASE I BOOK EXPLOITATION SOV/3441

Losev, Boris Ivanovich, Mikhail Solomonovich Komskiy, and Mar'yana Aleksandrovna Troyanskaya

Otverzhdennoye motornoye toplivo (Solidified Engine Fuel) Moscow, AN SSSR, 1959. 213 p. Errata slip inserted. 2,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut goryuchikh iskopayemykh.

Resp. Ed.: I.P. Losev, Honored Worker in Science and Technology, RSFSR, Doctor of Technical Sciences; Ed. of Publishing House: A.L. Bankvitser; Tech. Ed.: I.F. Kuz'min.

PURPOSE: This book is intended for technicians and specialists interested in the fuel solidification industry.

COVERAGE: The authors deal with solidified fuels which have recently gained major importance in technical fields and in the domestic economy. The production of solidified fuels in hard briquets, their composition, dimensions, and principal advantages are discussed. Transportation and storage facilities are cited. No personalities are mentioned. There are no references.

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AUTHORS: Bylyna, E.A., Losev, B.I. and Troyanskaya, M.A. (Moscow)

TITLE: Extraction of Germanium from Coal by γ-irradiation in Carbon Tetrachloride (Izvlecheniye germaniya iz ugley pri γ-obluchenii v chetyrekhkhloristom uglerode)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, pp 124 - 125 (USSR)

ABSTRACT: Soviet and foreign scientists have established that in many coal beds the germanium content is high enough for its extraction from coal (Refs 1, 2). Many investigations (Refs 6-8) have shown that γ-irradiation of carbon tetrachloride results in formation of free chlorine. This free chlorine is then used to extract germanium (chlorination method). Four types of coal were tried. They were heated in flasks with carbon tetrachloride and irradiated at the rate of 200 rœntgen/sec. After irradiation the liquid phase and the coal were analysed for germanium.

Recovery of germanium in the liquid phase was small for coals containing little of it. Results for extraction from two coals richer in germanium are given in Table 1, 53% and 100% being extracted in these cases with

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