KOPYLOV, I.P. (Irkutsk)

Book about the Siberian roe deer ("Roe deer in Eastern Siberia." A.S.Fetisov. Reviewed by I.P.Kopylov). Priroda 44 no.9:122-123 S '55. (MLRA 8:11)

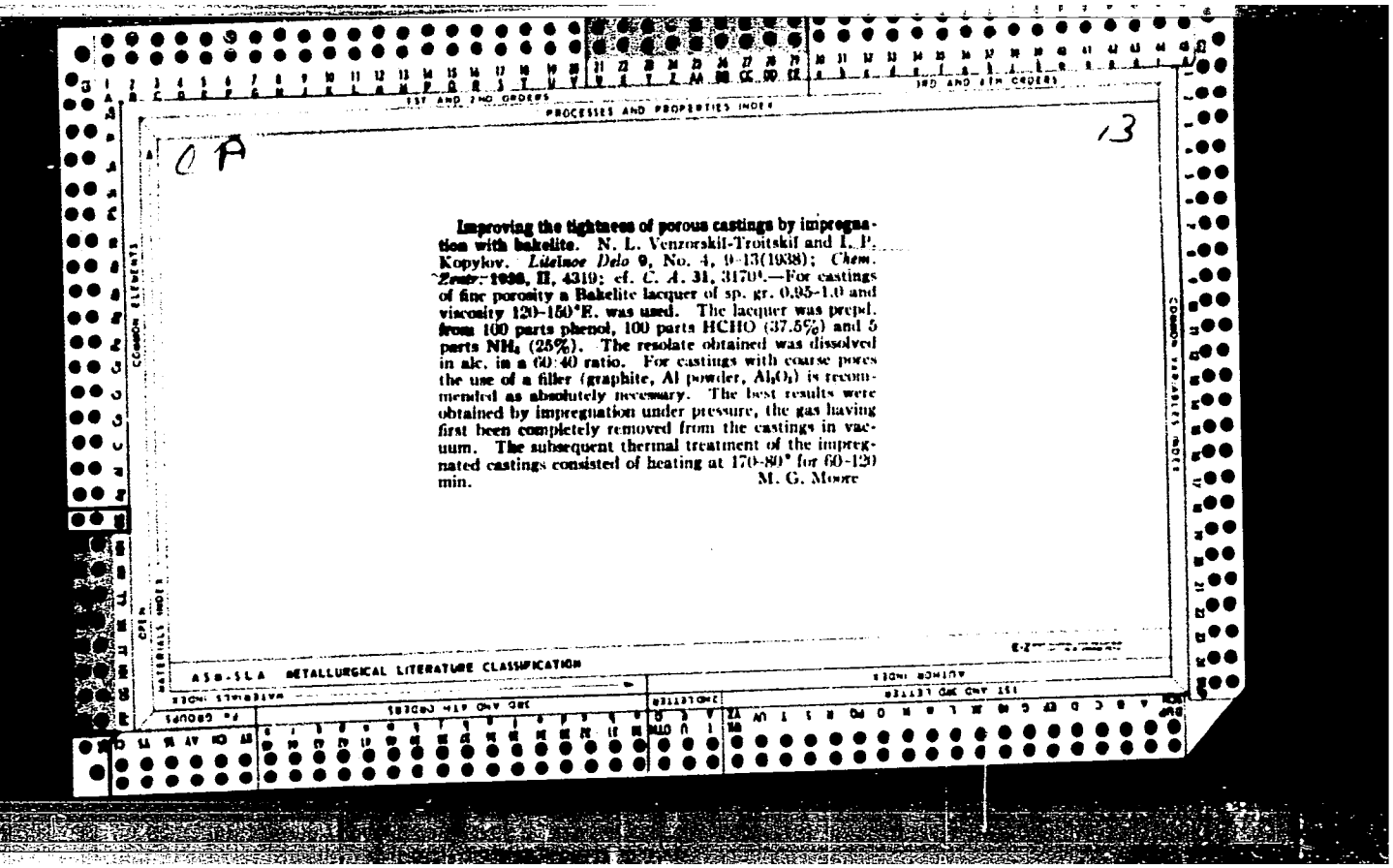
(Siberia, Eastern--Roe deer) (Fetisov, A.S.)

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Decreasing the Porosity of Silumin Products. N. L. Vensorskii-Troitskii and I. P. Kopylov (*Novosti Tekhniki* (*Tech. News*), 1936, (48/49), 35-36; *C. Abs.*, 1937, 31, 3170).—[In Russian.] C_6H_5OH 100, HCHO 100, 25% NH_3 5 parts by weight are mixed, and the product obtained, $C_{14}H_{12}O_2$ (Bakelite), is dissolved in C_2H_5OH (6 : 4). Goods prepared from Silumin treated with this lacquer are then treated in a vacuum apparatus at 70°–100° C. and a pressure of 210–300 mm. mercury. The difference in pressure on the outsides and insides of the articles under treatment permits the filling of the pores with lacquer in 2 hrs. At this temperature the lacquer-filled micro-pores of the articles are polymerized to a durable and stable "B" (rezit) form. Articles treated in this way are air-, gas-, and liquid-tight at 250°–300° C., and at a pressure of 1·5–2 atm. They are stable in water, salt solutions, sea-water, dilute acids, and alkalis.—S. G.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

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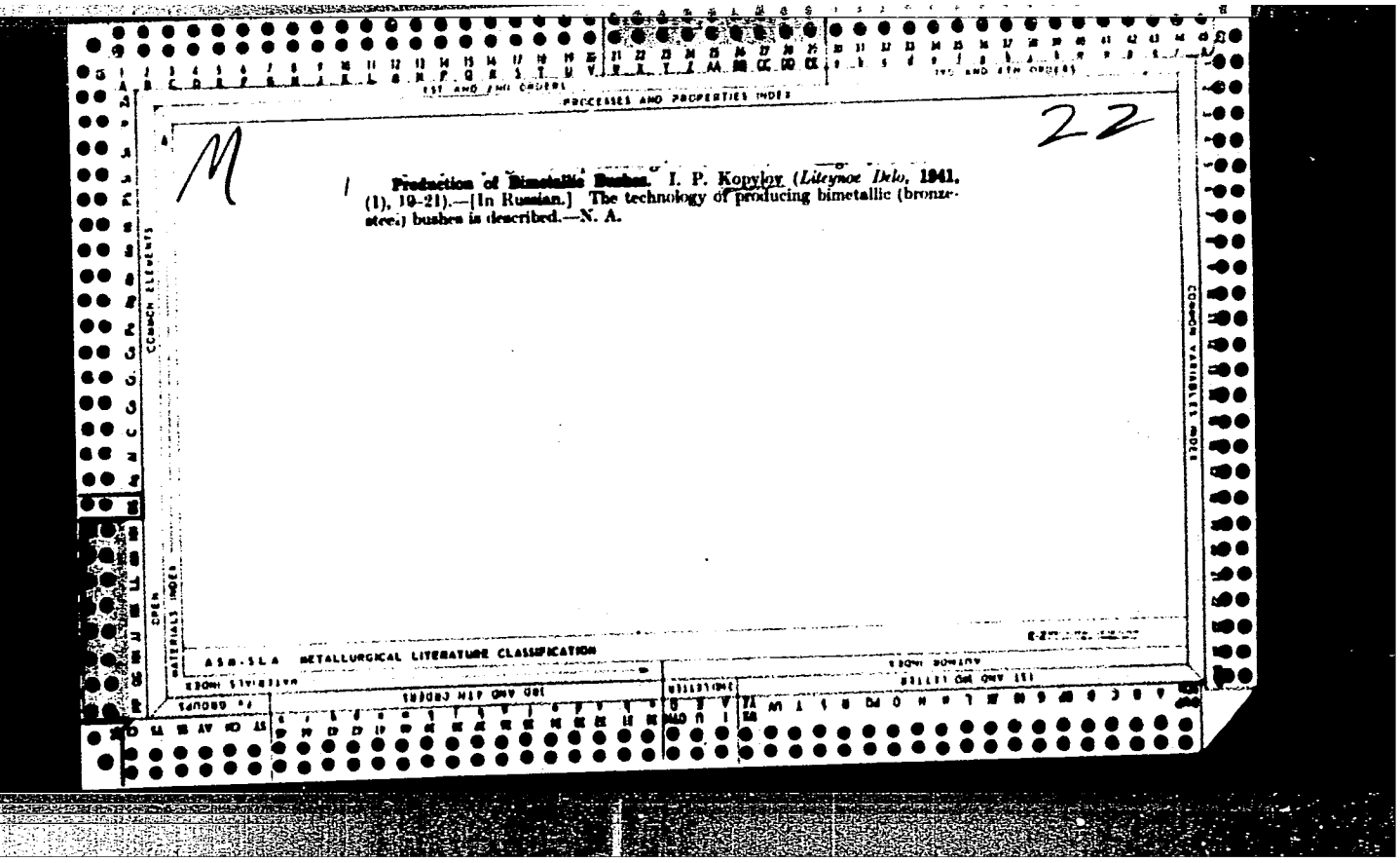
Improving the tightness of porous castings by impregnation with bakelite. N. L. Venzorskil-Troitskil and I. P. Kopykov. *Liteinoe Delo* **9**, No. 4, 9-13(1938); *Chem. Zentr.* 1938, II, 4310; cf. *C. A.* 31, 3170⁹.—For castings of fine porosity a Bakelite lacquer of sp. gr. 0.95-1.0 and viscosity 120-150°E. was used. The lacquer was prepd. from 100 parts phenol, 100 parts HCHO (37.5%) and 5 parts NH_4 (25%). The resolate obtained was dissolved in alc. in a 60:40 ratio. For castings with coarse pores the use of a filler (graphite, Al powder, Al_2O_3) is recommended as absolutely necessary. The best results were obtained by impregnation under pressure, the gas having first been completely removed from the castings in vacuum. The subsequent thermal treatment of the impregnated castings consisted of heating at 170-80° for 60-120 min.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



M

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Production of Bimetallic Bushes. I. P. Kopylov (*Liteynoe Delo*, 1941, (1), 19–21).—[In Russian.] The technology of producing bimetallic (bronze-steel) bushes is described.—N. A.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

m

2

*Bronze OTsSN—2·5 : 7 : 5 : 1. I. P. Kozylov and M. E. Dubner (Liteynoe Delo (Foundry Practice), 1941, 12, (3), 27–28; Chem. Zentr., 1942, 113, (I), 2817; C. Abs., 1943, 37, 3725).—[In Russian.] OTs—10 : 2 bronze (tin 10, zinc 2%, and the rest copper) was compared with OTsSN—2·5 : 7 : 5 : 1 bronze (tin 2·41–4·33, zinc 6·03–7·79, lead 4·4–5·85, nickel 0·75–0·91%, and the rest copper). The structure of the latter alloy is a solid solution of tin, zinc, and nickel in copper with lead distributed in the grain boundaries. The OTsSN alloy has good fluidity; a Brinell hardness of 63·9–65·5; volume change of 1·45–1·5% between 1000° and 1100° C.; good resistance to corrosion in 20% H_2SO_4, 2–5% acetic acid, and lactic acid up to 60° C.; and is attacked strongly in hot 15% HCl. Commercial uses are for steam turbines at pressures up to 15 atmospheres and acid-resisting castings at room temperature.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOPYLOV, I. P.

"Amplidon With Superposed Magnetization." Cand Tech Sci, Chair of Electric Machines, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov, Min Higher Education USSR, Moscow, 1955. (KL, No 15, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

KOPYLOV, I.P., kandidat tekhnicheskikh nauk.

Alternating machines with sectional stators. Vest. elektroprom. 27 no.5:41-43 My '56. (MLRA 9:12)

1. Moskovskiy energeticheskiy institut imeni V.M. Molotova.
(Electric motors, Induction)

PETROV, G.N., doktor tekhnicheskikh nauk, professor; KOPYLOV, I.P., kandidat tekhnicheskikh nauk.

Dynamoelectric machine with superposed magnetization. Vest. elektrotekhn. 27 no.9:4-8 S '56. (MLRA 10:9)

1. Moskovskiy energeticheskiy institut imeni V.M.Molotova.
(Electric machinery)

KOPYLOV, I.P.

110-9-12/23

AUTHOR: Kopylov, I.P., Candidate of Technical Sciences,
Pavlov, N.N., Candidate of Technical Sciences

TITLE: A Method of Regulating the Inductance of Grounding Coils. (Sposob regulirovaniya induktivnosti zazemlyayushchikh katushek)

PERIODICAL: Vestnik Elektropromyshlennosti, 1957, Vol.28, No.9, pp. 46 - 47 (USSR).

ABSTRACT: Grounding (or compensating) coils are becoming more widely used and recently they have been applied to mobile electrified machines supplied through cables such as excavators or electric tractors. The principles and advantages of compensating the capacitative component of fault current are briefly explained. The inductive reactance of the coil should equal the capacitative reactance of the lines, but as the capacitance of the system is continually varying, the coil should be adjustable for complete compensation under all operating conditions. The simplest solution is to instal on each part of the circuit a compensating coil, tuned to resonance and switched with the line. However, even in this case the individual coils will have to be adjustable. Adjustment may be by altering: the number of turns; the air gap; the relative position of the coils; the inductance of the coil by auxiliary magnetisation. Tapped coils can only be adjusted in steps and tap-changing switches are bulky and

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expensive. Coils with adjustable air gaps can have a current range of 1:10 and offer the possibility of smooth control without disconnecting the coil from the circuit. The method of altering the coil inductance by auxiliary magnetisation offers considerable possibilities. A schematic diagram of a coil of this kind in which part of the upper yoke can be additionally magnetised is shown in Fig.1. In such coils there is auxiliary magnetisation of only part of the magnetic circuit; and, moreover, there is an air gap, so that the range of variation is quite narrow, say 1:1.5. However, the inductance can be changed with great accuracy and the tuning made automatic. Because of the quick action of the control coil it need not be switched on until the fault occurs and, therefore, the continuous power losses are very small. The design of compensating coils of this kind is briefly discussed and curves are given in Fig.2 of change in current in an experimental coil with change in the air gap, the number of turns and auxiliary magnetisation. It is convenient to use alteration of the air gap for coarse adjustment and auxiliary magnetisation for fine adjustment. A 20 kVA coil with auxiliary magnetisation has been working successfully since 1954. It is stated that Soviet industry should commence to manufacture

 earthing coils with smooth inductance control.

AUTHORS: Kopylov, Igor' Petrovich, Candidate of Technical Sciences, Assistant to the Chair of Electrical Machines at the Moscow Institute of Power Engineering; Polyak, Leonid Moiseyevich, Engineer at the Experimental Plant of the Scientific Research Institute of Electrical Industry; Radin, Vladimir Isaakovich, Engineer at the Plant imeni Vladimir Il'ich SOV/161-58-1-17/33

TITLE: Electrodynamic Differential Amplifier With Bias Magnetization (Differentsial'nyy elektromashinnyy usilitel' s podmagnichivaniyem)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Elektromekhanika i avtomatika, 1958, Nr 1, pp. 136 - 142 (USSR)

ABSTRACT: The mode of operation, the design, the computation and the characteristic curves of an electrodynamical differential amplifier with bias magnetization (EDVM) is investigated. This amplifier is a combination on one aggregate of a magnetic differential amplifier with a d.c. generator. The differential circuit element in the magnetic amplifier inverses the polarity at the output of the electrodynamical amplifier, when

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the polarity of the control signal is inversed. The EDVM warrants a high power amplification factor as high as $10^4 \div 10^6$. Such a high amplification factor is attained by the ganging of the magnetic amplifier and the d.c. motor. It considerably exceeds that of the electrodynamic transverse-field amplifier and that of the two-stage longitudinal-field amplifier. The time constant of the EDVM at a frequency of 50 c is almost equal to that of the transverse-field amplifier. It can, however, be reduced by a feed-back and by a frequency increase of the voltage feeding the input cascade. The essential advantage of the EDVM is its high stability. This is achieved because the output voltage in the whole operational range is a function of the difference of two exciting fluxes, and by a closing of a strong alternating flux through the stator, thus re-magnetizing the whole steel frame of the EDVM. Experiments showed that this new amplifier can be used in systems of automatic control. The data of the test equipment of the EDVM are given. There are 7 figures and 4 references, which are Soviet.

Electrodynamic Differential Amplifier With Bias Magnetization

SOV/ 161-58-1-17/33

ASSOCIATION: Kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta (The Chair of Electrical Machines at the Moscow Institute of Power Engineering)

SUBMITTED: January 4, 1958

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SOV/161-58-4-10/28

8(5)

AUTHOR: Kopylov, Igor' Petrovich, Candidate of Technical Sciences, Docent

TITLE: Is the Use of Thermoelectric Cooling Possible in Electric Machines ? (Vozmozhno li primeneniye termoelektricheskogo okhlazhdeniya v elektricheskikh mashinakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Elektromekhanika i avtomatika, 1958, Nr 4, pp 70-74 (USSR)

ABSTRACT: The thermoelectric cooling depends on the Peltier effect. At electrical machines no deep cooling till below 0° is desired. It is sufficient if only a part of the heat arising in the machine by losses is led away to the cold soldered joints outside the machine (Fig 1). A variant of such a scheme for the thermoelectric cooling of an electric machine is given here. At this variant conductors are used through which the working current is passing and the thermocouple elements are directly connected with the power circuit. In this case it is sufficient that the thermocouple elements are running empty at this moment when the Joule heat is absorbed. The electric circuit of the machine has to consist of a

series of parallel elements. The formula (6) for $I_{optimum}$ and (7) for the optimum of the current density is derived here. This is the case when the amount of heat being delivered or absorbed in one second equals this delivered in the branch lines of thermocouple element. If the temperature of the soldered joint increases (over 27°C) then the length of the conductor may be some centimeters. If thermocouples with especially good characteristic factors are used the length of conductor can be still greater and the optimum of the current density can be increased for the multiple. In this form the thermoelectric cooling can be used at unipolar generators at which the rotor bars have a cold soldered joint consisting of two semiconductors within the operating zone of the machine and the hot soldered joint without the machine. An other way is more economical, i.e. the use of a special electric system. In this case the electric cooling consists of thermopiles connected in series or in parallel so that the electron element is connected with the hole element and the hole element with the following electron

element. All cooling soldered joints are inside, all heating outside the machine. If current is flowing the soldered joints being inside the machine are cooled and these outside the machine are heated. At a temperature of 127°C inside the machine and of 47°C in the hot soldered joints only a fifth of the electric power is needed for cooling the heat produced in the machine. Thus the power necessary for cooling is only a part of the mechanical power. The weight of the thermopiles amounts to 15-20% of the weight of the machine. There are 2 figures and 5 references, 4 of which are Soviet.

ASSOCIATION: Kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta
(Chair of Electric Machines of the Moscow Institute of Power Engineering)

105-58-6-14/33

AUTHOR: Kopylov, I. P., Candidate of Technical Sciences

TITLE: Combination of a Magnetic Amplifier and an Electric Machine (Ob"yedineniye magnitnogo usilitelya i elektricheskoy mashiny)

PERIODICAL: Elektrichestvo, 1958, Nr 6, pp. 56-58 (USSR)

ABSTRACT: In the plant Vladimir Il'ich 3 test samples of electrodynamic amplifiers with a magnetizing power of 1 k.W. were produced in different modifications (references 2 to 4). The most interesting one is the differential amplifier with magnetization and self-excitation. In the differential amplifier the stator consists of 4 plates to which 2 magnetic amplifiers with internal return coupling are fixed. The amplifiers are connected according to the differential diagram and feed the individual excitation windings. The differential amplifier has symmetrical and stable characteristic properties, needs less copper and no direct-current supply for the feeding of the control winding. The amplifier with self-excitation is a combination of a magnetic amplifier and of an electrodynamic one with transverse field (reference 5). At the poles of this amplifier there are, besides the windings mentioned above, one self-excitation winding

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and one control winding that is connected to the output of the mangetic amplifier. The amplifier with self-excitation shows stable characteristic properties as a consequence of the strong flux that is caused in the stator steel by the a.c. windings of the magnetic amplifier. The disadvantages of the magnetic amplifier that is combined with the electric machine are the difficulties in the use of special steels and the restrictions in the selection of parameters. In the motor amplifier with magnetization the d.c. motor of the a.c. motor are combined in one aggregate with the magnetic power amplifier. The motor amplifiers differ from the electrodynamic amplifiers with mangetization only by the fact that the amplifier is connected to the armature-current circuit and is computed for the engine performance. It is shown that it is possible to construct a d.c. motor amplifier with a wide range of regulation for the rotational speed, with a high factor of amplification according to the performance, and with arbitrary mechanical characteristic properties. As large rectifiers which are susceptible to overcharges are not always useful the amplifier can be combined with a single-phase collector motor with serial excitation. To sum up it is stated: 1) The combination of a magnetic amplifier with

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an electric machine in one aggregate renders it possible at a performance of the amplifier on the excitation winding to obtain a good electrodynamic amplifier with high overcharge capacity. 2) Motor amplifiers with installed magnetic amplifier are by 15 to 20% lighter compared to a system of an automatic power amplifier and an electric machine. There are 3 figures and 8 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Institute of Power Engineering)

SUBMITTED: December 24, 1957

1. Magnetic amplifiers--Design 2. Magnetic amplifiers--Performance
3. Magnetic amplifiers--Equipment 4. Electric motors--Performance

Card 3/3

Kopylov, I. P.

AUTHOR: Kopylov, I.P. (Cand.Tech.Sci.) & Radin, V.I. (Engineer) 110-2-6/22

TITLE: An experimental investigation of an amplidyne with sub-magnetisation. (Eksperimental'noye issledovaniye elektromashinnogo usilitelya s podmagnichivaniyem).

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, 29, No.2, pp.19-23 (USSR)

ABSTRACT: The amplidyne with sub-magnetisation is a combination of amplidyne and d.c. machine. Articles on its theory have been published. The present article gives experimental results obtained on a 1 kW machine manufactured at the works imeni Vladimir Il'ich. Engineer B.B. Buyanov and Technician E.N. Sokolov participated in the work. The construction of the amplidyne with sub-magnetisation is first described. A four-pole machine was made, for checking the effect of asymmetry of the magnetic system on the operation of the amplifier. An illustration of the stator core with amplidyne windings before insertion in the machine frame is given in Fig.1. A general view of the experimental moden amplidyne with built-in drive by induction motor is shown in F.2. The machine output is 1 kW. The static characteristics are then described. The first cascade of the machine is a magnetic amplifier and the second a d.c. machine. The individual characteristics of the two components are hardly distinguishable from those of an ordinary amplidyne with positive feed-back and a d.c. generator with independent excitation. The poles and steel frame increase the leakage flux of the magnetic amplifier; a frame of aluminium alloy is therefore

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An experimental investigation of an amplidyne with sub-magnetisation.

recommended. Characteristics of the magnetic amplifier without frame, with a steel frame, and with a steel frame and poles, are given in Fig.3, to show that the leakage fluxes appreciably influence the characteristics. Armature current and control current are related in Fig.4. The amplidyne with sub-magnetisation can give a high amplification factor with stable characteristics and a stable power amplification factor of 5×10^5 was obtained in experimental machines. The influence of the number of poles is discussed. Armature voltage and the control current for various currents in the compensating winding are related in Fig.5. Transverse armature reaction has little influence on the characteristics of the amplidyne; its influence is analysed as in an ordinary machine. The influence of longitudinal armature reaction flux is briefly discussed. All the experimental models of amplidynes with sub-magnetisation were 10% heavier than standard amplidynes of the cross-field type of the same output but with an amplification factor of 1,000. The experimental machine suffered from the need to use standard components. Selenium rectifiers were used in the experimental models, but germanium rectifiers will improve the characteristics of the machine. To a first approximation, an amplidyne with sub-magnetisation working into an inductive load may be considered as an aperiodic link. This is confirmed by oscillograms of transient processes given in Figs.6 & 7.

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imeni Vladimira Il'icha)

AVAILABLE: Library of Congress.

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8(3)

AUTHOR: Kopylov, I. P., Candidate of Technical Sciences

SOV/105-59-1-11/29

TITLE: A Direct-Current Motor-Amplifier (Dvigatel'-usilitel' postoyannogo toka)

PERIODICAL: Elektrichestvo, 1959, Nr 1, pp 45-48 (USSR)

ABSTRACT: Endeavors to reduce the weight of systems with high-voltage magnetic amplifiers led to the creation of a motor amplifier which combines the high-voltage magnetic amplifier and the D.C. motor. The magnetic amplifier is installed at the stator of the motor-amplifier consisting of two packages. The A.C. windings are applied to each package whereas the control winding and the winding of the external back coupling comprise both packages. The construction of the motor-amplifier is the same as that of the electrodynamic amplifier (EDA) with premagnetization. The only difference is that in case of the magnetic amplifier in the EDA with premagnetization the exciting coil constitutes the load, whereas in the motor amplifier the motor armature constitutes the load (Refs 1-4). At a change of the control signal, the inductive resistance of the A.C. coiling changes, which leads to an increase or

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decrease of the rectified current flowing through the motor armature. Control of the armature current leads to a corresponding change in the rotational speed. The motor amplifier can possess different exciting systems. This makes it possible to obtain the most varying mechanical characteristics. The power amplification factor of the motor amplifier is the ratio between the power on the shaft and the control coil power $K_p = \frac{P_2}{P_y}$. The power amplification factor of the motor amplifier is determined by the amplification factor of the magnetic amplifier, and can be in the order of magnitude betweeen 10^2 and 10^3.- The motor-amplifier has a higher efficiency as compared with the generator-motor system. The motor-amplifier works with nearly invariable losses, it needs no special starting devices. In starting, it is connected to the circuit at a current $I_y = 0$. As compared to the generator-motor system, the motor-amplifier has smaller dimensions and a smaller total weight (as there is no driving motor and no generator). Half the number of brushes increases reliability. The shortcoming of the motor amplifier is the impossibility of recuperative

braking. The magnetic amplifier is constructed in the motor-amplifier according to different schemes. In non-reversible motor amplifiers, the scheme with internal back coupling is preferable. At a capacity of 1 kw and up, it is convenient to use three-phase magnetic amplifiers. If the direction of rotation is to be changed, a differential connection or a bridge connection can be used for the magnetic amplifiers in case of motor amplifiers (Ref 4). A change in the direction of rotation of a differential motor amplifier can also be achieved by means of a change in the exciting field direction. - The calculation of the motor-amplifier with the use of an equivalent circuit diagram is pointed out here. In the motor-amplifier, the current density in the magnetic amplifier coilings can be assumed as in ordinary electric machines with immovable, punctiformly distributed coilings cooled by a ventilator. The reduction of the copper weigth is one of the most substantial advantages of the motor-amplifier. The

A Direct-Current Motor Amplifier SOV/105-59-1-11/29

The motor-amplifier, designed at MEI (Moscow Institute of Power Engineering), has a capacity of 1 kw and weighs 70 kg. It is designed for frequent "stop-and start" operation.

SUBMITTED: August 13, 1958

Card 4/4

8 (5)

AUTHORS: 1) Kopylov, I. P., Candidate of Technical Sciences, 2) Hadin, V. I., Engineer

SOV/105-59-11-12/32

TITLE: An Alternating Current Motor Amplifier

PERIODICAL: Elektrichestvo, 1959, Nr 11, pp 56 - 60 (USSR)

ABSTRACT: In the beginning the use of alternating current commutator motors in enterprises where the number of revolutions has to be changed is pointed out and a new motor type of this kind is mentioned, which is a modification of the Schrag-Richter motor. In this type the induction controller which controls the fed rotor voltage is used with which a change of the number of revolutions of 30 : 1 may be achieved. Figure 1 gives the principle scheme of a series motor of this type with a magnetic amplifier to control the armature voltage. Figure 2 gives the principle scheme of a motor amplifier in which amplifier and motor are combined. The magnetic amplifier is fitted into the stator of the motor and an important decrease of the copper weight may be achieved by better cooling. By the combination of the two units on the stator the steel weight is reduced by 30-40%. The single-phase commutator motor shown in figure 3

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An Alternating Current Motor Amplifier SOV/105-59-11-12/32

was constructed on the basis of a series production magnetic amplifier and a series production motor in the 'Plant' imeni Vladimir Il'ich. The motor amplifier has 3 kw, 127 v, 50 cps, and 9000 rpm. Engineer Yu. M. Belen'kiy and Engineer S. R. Troitskiy assisted in the investigations. The distribution of the magnetic flux in the stator shown in figure 4 indicates that the amplifier characteristics are changed due to the irregular distribution of the magnetic flux. The diagram on figure 5 shows that by applying an excitation flux the linear zone and the amplification factor of the characteristics are reduced, which leads to a decrease in the short-circuit current with maximum control pulse. When the control pulse is lacking the excitation flux has no influence on the magnetic amplifier characteristics. Furthermore, the equivalent circuit scheme (Fig 6) is discussed and the nonlinear differential equations (1) and (2) are given. The approximation of the magnetization curves from these equations through two straight lines may be obtained from the equations of a conventional magnetic amplifier. The position of the working point is shown by the diagram on figure 7 and the working characteristics are discussed by the diagram in figure 8. A large air gap and a small field overlap are recommended to reduce the armature

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SOV/144-59-12-9/21

AUTHOR: Kopylov, I.P., Candidate of Technical Sciences, Assistant

TITLE: Self-Excitation of a Pre-Magnetized Rotary Amplifier

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1959, Nr 12, pp 83-87 (USSR)

ABSTRACT: Cross-field amplidynes are now widely used in automatic control systems but cannot meet all requirements. Consequently use is beginning to be made of d.c. generators in which the field is supplied by a magnetic amplifier as indicated in the circuit diagram of Fig 1. In non-reversing drives this combination weighs less than a cross-field amplidyne of corresponding output; for instance, generator type PN-290 of 40 kW at 1450 rpm weighs 530 kg. The magnetic amplifier supplying the field winding should be of 3 to 4 kVA, which at a frequency of 50 c/s would weigh 100 to 120 kg including the weight of the rectifier. The weight of such a system can be further reduced by using high-speed machines and high-frequency supply to the magnetic amplifiers. The speed of large cross-field amplidynes cannot be increased because of poor commutation. In high-power automatic control systems it would be advantageous to use direct-

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field amplidynes. These machines, also known as rototrols, can give very high amplification factors and can be constructed for high outputs, since they resemble ordinary d.c. generators. They have not been much used, mainly because of instability associated with the marked influence of remanent fields. During the last two years the Moscow Power Institute, together with the Vladimir Il'ich Works, have been investigating a pre-magnetized amplidyne combining a magnetic amplifier and d.c. generator. One variant is a self-exciting pre-magnetized amplidyne that combines a single-stage direct-field amplidyne and a magnetic amplifier; the circuit is shown in Fig 2. Here the magnetic amplifier supplies only part of the field winding, the remainder being supplied from the machine armature. The relationship between the control winding signal and the output voltage of this arrangement may be determined by considering it as an amplifier with two stages; a magnetic amplifier and a direct-field amplidyne. The corresponding machine equations are written down and the final voltage equation of the arrangement is given by Eq (12). The amplification

factor of such an arrangement is of the order of 10^5 and a device of 1 kW at 110 V and 3000 rpm weighs 85 kg including the built-in induction motor. The duration of the transient process in the experimental model was about 0.9 seconds; an oscillogram is given in Fig 3. In studying the arrangement considerable attention was paid to the influence of the alternating field of the magnetic amplifiers and the remanent field. The remanent field depends upon the value of the demagnetizing field, the quality of the material used, the mechanical vibrations, temperature, design features and other factors. The influence of various factors on the remanent field is discussed. The alternating field must be of 6000 to 10000 gauss in order for it to reduce the remanent field. To secure considerable reduction of the remanent field it is necessary to demagnetize the entire magnetic system. In a self-exciting amplidyne the series field winding can also be used as an output cascade of a 2 to 3 stage direct-field amplidyne. Fig 4 shows the circuit of a three-stage amplidyne with pre-magnetization; reduction in the remanent field by ✓

the variable flux of the magnetic amplifiers secures stable operation of the output stage. At present all amplidynes using high-amplification factor are produced with a demagnetizing winding. This winding should be designed so that the alternating field is of the order of 6000 to 9000 gauss. The self-exciting amplidyne with pre-magnetization corresponds to an ordinary d.c. machine with laminated stator, and the demagnetizing winding is designed for operation as an a.c. magnetic amplifier winding. The device can replace the cross-field amplidyne, giving higher amplification factors and a wider range of outputs. There are 4 figures and 3 Soviet references.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Institute) ✓

SUBMITTED: September 28, 1959

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S/144/60/000/007/008/008/XX
E194/E484

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AUTHOR: Kopylov, I.P., Candidate of Technical Sciences, Docent

TITLE: Direct Current Reversing Motor-Amplifiers

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1960, No.7, pp.72-79

TEXT: Automatic electric drive with magnetic amplifiers connected in the d.c. motor power circuit are finding increasing application for control systems with a wide speed range. However, for reversing drives with a wide speed range magnetic amplifiers systems are difficult to make for 50 c/s supply and are heavier than amplidyne systems. This article describes a number of systems of reversing d.c. motor-amplifiers. In motor amplifiers the magnetic amplifier is built on the motor stator giving a weight reduction of 30 to 40% as compared with separate construction of motor and magnetic amplifiers. A number of different systems are then described, each with its own advantage in particular cases. A differential motor-amplifier with the circuit shown in Fig.1 was made at the works imeni Lenin and tested by the Moscow Power Engineering Institute in 1959. The machine permits of a number of variants of connection of the magnetic amplifier and field winding. The stator is divided into four bundles bearing a.c. windings

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Direct Current Reversing Motor-Amplifiers

connected as shown in Fig.1. The difference between this and previously described d.c. motor amplifiers lies in the construction of the magnetic amplifier. The magnetic amplifiers operate on the armature of a four-pole motor having a simple lap winding without equalizer bars. In one method of connection, the magnetic amplifiers are cross-connected and the current flowing in the armature creates torques of opposite signs. When the magnetic amplifier currents are equal the armature is stationary and the armature rotates in one direction or the other as the current in the corresponding magnetic amplifier increases. With this method of connection the size of the machine is very large for a given output. There is a very curious current distribution with differential operation in the parallel branches of the armature winding and the circuit of the parallel branches of the simple lap winding for a four pole machine is as shown in Fig.2; during differential operation the polarity is reversed on one pair of brushes. The current distribution was studied on a model. This type of machine is advantageous where stable characteristics are required over a range of speeds. It is recommended that the differential connection should be used only

Direct Current Reversing Motor-Amplifiers

for brief periods and the machine should mainly be used with the magnetic amplifiers not cross-connected. Fig.3 shows a photograph of an experimental motor-amplifier with an output of 1 kW at 127 V with a power amplification factor of 300, other details are given. In order to avoid equalizing currents and to make better use of the armature copper, the armature may have two separate windings brought out to two commutators. With the armature windings cross-connected variable speed characteristics may be obtained just as in the case of the differential motor amplifier described above. Fig.4 shows a diagram of such a motor with three-phase magnetic amplifiers on the stator. The stator is divided into twelve bundles bearing a.c. windings. The direction of rotation of a d.c. motor may also be altered by changing the direction of the field in the air gap and the simplest way of doing this without ballast resistances is a circuit with two cross-connected series field windings. In this circuit each field winding is supplied from a magnetic amplifier and on the armature both branches of the circuit are connected in series as shown in Fig.5. With this construction more copper is required in the field winding and it has other disadvantages including instability during reversing and a mechanical

Direct Current Reversing Motor-Amplifiers

characteristic of complicated shape. However, the motor efficiency is much higher than in the case of the circuit in Fig.1. Reversing can be obtained without a differential magnetic amplifier if the machine has two field windings, one of which is supplied with d.c. at constant voltage so that the current is constant and the other supplied from a magnetic amplifier with varying current. Other variants of this circuit are also described. Fig.6 shows a diagram of a reversing motor-amplifier with saturating bridges. The power magnetic amplifier with internal negative feed back is built on the motor stator which consists of two bundles. The a.c. windings are wound on each bundle and all the remaining windings cover both stator bundles and have no induced fundamental frequencies. The field winding is connected in series and is wound on four poles. Two of the poles have saturating bridges for example by being made partially hollow as shown in Fig.6. The number of turns of field winding on the poles with saturating bridges is 3 to 4 times greater than on the two other poles. The field windings on the saturating poles are cross connected with those on two other poles. Alteration of the signal in the control winding alters the

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S/144/60/000/007/008/008/XX
E194/E484

Direct Current Reversing Motor-Amplifiers

current in the field windings and in the motor armature. The induction in the air gap under the saturating poles first increases more rapidly than under the unsaturated because the ampere turns of the field winding of the saturating poles is greater. Then the bridges saturate and the induction increases slowly whilst it continues to increase under the unsaturated poles. Fig.7 shows the change in fields under the saturating poles and under the unsaturated and also the resultant field of the machine. As will be seen from Fig.7, as the current in the field winding alters the field changes sign, passing through zero. As the field passes through zero the motor is stationary and as it further decreases the motor reverses in direction. One of the disadvantages of the system is that the motor torques are not the same in the two directions. As compared with the other motors that have been considered this one with the saturating poles is the lightest and most efficient. The motor with saturating bridges is much lighter than a motor-generator system and has only one commutator so that it is more reliable. This motor should find wide application in drives of certain kinds of machine tools, including planing machines

Card 5/6

S/144/61/000/012/001/001
D274/D305

AUTHORS: Vinogradov, N.V., Kopylov, I.P. and Razgulyayev, B.V.

TITLE: Electric machines with compound stators, manufactured by the method of powder metallurgy

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, no. 12, 1961, 91-95

TEXT: A method is described of producing stator and rotor cores from metallic powders, for electrical machinery (e.g.Fig. 1) of power not exceeding 1 kW. The parts are manufactured from powders of known mechanical and magnetic properties, obtained by crushing scrap metal. The starting material is ground and tempered and 6 - 7% of an alcoholic solution of styrol is added to serve as an insulator, at 120-125°C. The powders are then size- and weight - graded, lubricated and cold-pressed. The latter

Card 1/3

Electric machines with ...

process is described in some detail. The compacts are densified by sintering and do not require finishing. Properties of the pressed material are compared to those of Э 31 (E 31) steel, and an account of the characteristics, weights and costs of machines using ordinary and pressed-powder parts is given. There are 4 figures, 1 table and 4 Soviet-bloc references.

SUBMITTED: March 8, 1961

KOPYLOV, I.P. dotsent, kand.tekhn.nauk

Conference on science and technology at the Moscow Order of Lenin Power Engineering Institute. Izv. vys. ucheb. zav.; elektromekh. 4 no.5:106-107 '61. (MIRA 14:7)
(Electric driving—Congresses)
(Electric machinery—Congresses)

KOPYLOV, I.P., kand.tekhn.nauk; BESPALOV, V.Ya., inzh.

Reversive asynchronous motor with excitation. Vest. elektroprom. 32 no.11:14-17 N '61. (MIRA 14:11)
(Electric motors, Induction)

GORYANOV, Fedor Alekseyevich. Prinimali uchastiye: SALGUS, G.K., dots.; KOPYLOV, I.P., dots.; YEMZHIN, V.V., tekhn. red.

[Amplidynes; theory and design] Elektromashinnye usiliteli; teoriia i raschet. Moskva, Gosenergoizdat, 1962. 287 p. (MIRA 15:7)

(Rotating amplifiers)

S/144/62/000/002/007/007
D289/D301

AUTHOR: Kopylov, Igor' Petrovich, Candidate of Technical Sciences, Docent (see Association)

TITLE: Single armature converter with superposed magnetization

PERIODICAL: Izvestiya vysshikh uchebnykh zavedenoy. Elektromekhanika, no. 2, 1962, 189 - 195

TEXT: The design given is a modification of Kulebakin's design where a converter is fed from d.c. side with rectified a.c. from the mains. The output is variable in frequency and voltage, the ratio voltage/frequency is constant. A magnetic amplifier is used, reducing the weight of the apparatus and providing internal feedback loop without special windings. The feedback utilizes an open bridge rectifier. The excitation fluxes are superimposed on the magnetic amplifier fluxes and their distribution around the stator depends on whether they add or subtract. Current in armature winding is the difference between d.c. and a.c. currents, and is a function of load and power factor. The converter can be uprated by

Card 1/2

KOPYLOV, I.P., kand.tekhn.nauk.

Asynchronous motor with excitation. Vest. elektroprom. 32 no.3: 39-42 Mr '61. (MIRA 15:6)

(Electric motors, Induction)

VINOGRADOV, Nikolay Vladimirovich, kand.tekhn.nauk, dotsent; KOPYLOV, Igor' Petrovich, kand.tekhn.nauk, dotsent; RAZGULYAYEV, Boris Basil'yevich, student-diplomnik

Electric machinery with composite stators constructed by utilizing techniques employed by the powder metallurgy industry. Izv. vys. ucheb. zav.; elektromekh. 4 no.12:91-95 '61. (MIRA 15:1)

1. Kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta (for Vinogradov, Kopylov). 2. Moskovskiy energeticheskiy institut (for Razgulyayev).
(Electric machinery) (Electric equipment industry)

KOPYLOV, I.P.

Single-armature converter with field excitation. Izv. vys. ucheb. zav.; elektromekh. 5 no.2:189-195 '62. (MIRA 15:3)
(Electric current converters)

ANTONOV, Mikhail Vasil'yevich, inzh.; KOPYLOV, Igor' Petrovich, kand. tekhn.nauk, dotsent; RADIN, Vladimir Isaakovich, kand.tekhn. nauk

Use of the inverse synchronous field in single-phase electrical machines. Izv.vys.ucheb.zav.; elektromekh. 5 no.9:994-1001 '62. (MIRA 16:1)

1. Nachal'nik elektromashinnoy laboratorii Moskovskogo elektromekhanicheskogo zavoda imeni Vladimira Il'icha (for Antonov). 2. Kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta (for Kopylov). 3. Nachal'nik tsentral'noy laboratorii Moskovskogo elektromekhanicheskogo zavoda imeni Vladimira Il'icha (for Radin).
(Electric driving)
(Electricity in agriculture)

KOPYLOV, I.P., kand. tekhn. nauk, dotsent; MESPALOV, V.Ya., inzh.

Reversive asynchronous motor-amplifiers. Trudy MEI no.38:199-208 '62. (MIRA 17:2)

KOPYLOV, Igor' Petrovich, kand.tekhn.nauk, dotsent

Equations of a generalized electromechanical converter. Izv. vys. ucheb. zav.; elektromekh. 6 no.11:1200-1204 '63. (MIRA 17:4)

1. Kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta.

GRISHIN, Ye.N.; IL'INSKIY, N.F.; KOPYLOV, I.P.

Determination of the spectrum of the harmonics of a magnetizing force in nonsymmetrical windings. Elektrichestvo no.1:47-49 Ja '64. (MIRA 17:6)

1. Moskovskiy energeticheskiy institut.

ALENCHIKOV, D.A., inzh.; BESPALOV, V.Ya., inzh.; KOPYLOV, I.P., kand. tekhn. nauk; NIKITIN, Yu.A., inzh.

Series of motor-amplifiers. Elektrotekhnika 35 no.6:19-24 Je '64. (MIRA 17:8)

KOPYLOV, Igor' Petrovich, kand.tekhn.nauk, dotsent

Self-excited asynchronous a.c. generator-amplifier. Izv.vys.ucheb. zav.; elektromekh. 7 no.10:1220-1224 '64. (MIRA 18:1)

1. Kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta.

KOPYLOV, Igor' Petrovich, kand.tekhn.nauk, dotsent; MAZURKEVICH, Aleksand Tideyevich, inzh.

Single-phase synchronized motor. Izv.vys.ucheb.zav.; elektromekh. 7 no.11:1367-1371 '64. (MIRA 18:3)

1. Kafedra elektricheskikh mashin Moskovskogo energeticheskogo instituta (for Kopylov). 2. Moskovskiy energeticheskiy institut (for Mazurkevich).

L 54596-65 EWT(d)/EWT(l)/EPA(s)-2/EWP(l) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 IJP(c)
BC 33

ACCESSION NR: AT5009813 UR/0000/64/001/000/0173/0180

AUTHOR: Il'inskiy, N. F. (Moscow); Kopylov, I. P. (Moscow)

TITLE: Contactless motor supplied by a d-c source

SOURCE: Vsesoyuznaya konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy. 4th, Novosibirsk, 1962. Avtomaticheskiy kontrol' i metody elektricheskikh izmereniy; trudy konferentsii, t. 1: Metody elektricheskikh izmereniy. Tsifrovyye izmeritel'nyye pribory. Elementy izmeritel'nykh sistem (Automatic control and electrical measuring techniques: transactions of the conference, v. 1: Electrical measuring techniques. Digital measuring instruments. Elements of measurement systems). Novosibirsk, Redizdat Sib. otd. AN SSSR, 1964, 173-180

TOPIC TAGS: servomotor, contactless dc motor

ABSTRACT: The development is reported of a squirrel-cage induction motor combined with a static dc-ac inverter which employs push-pull-connected output transistors. The windings of the inverter transformer are imbedded in the slots of the motor stator. This joint use of the motor magnetic circuit permits

Card 1/2

KOPYLOV, Igor' Petrovich, kand. tekhn. nauk, dotsent; MAMEDOV, Fuad Aliyevich, aspirant

Mathematical modeling of an electric drill working on different depths with current asymmetry. Izv. vys. ucheb. zav.; elektromekh. 8 no.11:1266-1274 '65. (MIRA 19:1)

1. Kafedra elektricheskikh mashin Moskovskogo ordena Lenina energeticheskogo instituta.

KOPYLOV, I.R.

Why we don't have guaranteed wages. Nauka i pered.op.v sel'khoz. 7 no.9:48 S '57. (MIRA 10:10)

1. Sekretar' Belolutskogo rayonnogo komiteta Kommunisticheskoy Partii Ukrainy Voroshilovgradskoy oblasti.
(Collective farms) (Wages)

KOSTRYUKOV, V.A., inzh.; KOPYLOV, I.I., inzh.; GOVOROV, V.P., inzh., nauchnyy red.; YEL'CHUKOV, V.S., red.; BERKUT, I.V., otvetsv. za vypusk

[Program for the subject "Production standards and estimates" in the technical school major "Sanitary installations in buildings," approved by the Ministry of Higher Education of the U.S.S.R., April 14, 1955. A 90-hour course] Programma predmeta "Tekhnicheskoe normirovanie i smety" k uchebnomu planu spetsial'nosti tekhnikumov "Sanitarno-tekhnicheskie ustroistva zdanii," utverzhdennomu Ministerstvom vysshego obrazovaniia SSSR, 14 aprelia 1955 g. Ob"em programmy - 90 chasov. Moskva, Uchebno-metodicheskii kabinet, 1958. 9 p. (MIRA 12:2)

1. Russia (1917- R.S.F.S.R.) Ministerstvo stroitel'stva. Otdel uchebnykh zavedeniy upravleniya kadrov. (Construction industry)

KOPYLOV, M.

Let's align with the best! Okhr. truda i sots. strakh. 3 no. 12:8-10 D '60. (MIRA 13:12)

1. Predsedatel' Astrakhanskogo oblastnogo soveta profsoyuzov.
(Astrakhan Province--Technological innovations)
(Astrakhan Province--Industrial hygiene)

KOPYLOV, M., inzh.; GINZBURG, M.; ARTAMONOVA, V.; MIKULINSKIY, A.; CHERNOV, A.; IGLIN, S.

Technical information. Okhr. truda i sots. strakh. no.4:32-49 Ap '63. (MIRA 16:4)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut (for Kopylov). 2. Starshiy inzh. po tekhnike bezopasnosti neftezavoda imeni XXII s"yezda Kommunisticheskoy partii Sovetskogo Soyuza, Baku (for Ginsburg).

(Technological innovations)

KOPYLOV, M.

Rural industrial hygiene. Okhr.truda i sots.strakh. 6 no.1:6-8 Ja '63. (MIRA 16:1)

1. Predsedatel' Astrakhanskogo oblastnogo soveta professional'nykh soyuzov.
(Astrakhan Province—Farm mechanization—Hygienic aspects)

KHAYKIN, V.; SUKHAREV, Yu.; PETROV, Ye.; BEKKER, A., inzh. po tekhnike bezopasnosti; PODISTOV, N.; KOPYLOV, M., inzh.

Technical information. Okhr. truda i sots. strakh. 6 no.6: 34-41 Je '63. (MIRA 16:8)

1. Upravleniye legkoy promyshlennosti Soveta narodnogo khozyaystva Estonskoy SSR, Tallin (for Bekker).

KOPYLOV, M. B.

42620. Rentgenologich Dakiye Predstavleniya O Mekhanicheskikh Faktorakh V Venoznom Krovoobrashchenii Cherepa I Mozga. Trudy in-ta Neyrokhirurgii Im. Burdenko; T. I, 1948, S. 45-63--Bibliogr; 7 Nazv.

KOPYLOV, M.B.

KOPYLOV, M. B., EGOROV, B. G.

Roentgenological characteristics of vascular supply of meningeal and cranial bone tumors. Vopr. nevrokhir. 14:3, May-June 50. p. 20-9

1. Moscow .

CIML 19, 5, Nov., 1950

KOPYLOV, M.B.;PLEVAKO, N.S.

Roentgenotherapy of hypophyseal tumors. Vopr. neirokhir. 16 no. 4: 28-33 July-Aug 1952. (CIML 23:3)

1. Of the Roentgenological Division (Head — Prof. M. B. Kopylov) of the Institute of Neurosurgery imeni Academician N. N. Burdenko (Director — Prof. B. G. Yegorov, Corresponding Member AMS USSR), Academy of Medical Sciences USSR.

KOPYLOV, M.B.

Secondary modifications in the cranium in brain tumors. Vopr. neirokhir. 17 no.1:24-29 Jan-Feb 1953. (CLML 24:2)

1. Professor. 2. Of the Institute of Neurosurgery imeni Academician N. N. Burdenko. (Director -- Prof. B. G. Yegorov, Corresponding Member AMS USSR) of the Academy of Medical Sciences USSR, Moscow.

VOLYNKIN, N.M.; KOPYLOV, M B.

Use of partition angiography in arachnoid endothelioma. Vop. neirokhir. 19 no.3:27-32 My-Je '55. (MLRA 8:6)

1. Iz Nauchno-issledovatel'skogo ordena Trudovogo Krasnogo Znameni instituta neyrokhirurgii imeni akad. N.N.Burdenko Akademii meditsinskikh nauk SSSR.

(BRAIN, neoplasms,
meningioma, cerebral angiography in)
(MENINGIOMA,
brain, angiography in)
(ANGIOGRAPHY,
cerebral, in meningioma)

KOPYLOV, M.B.

Roentgenological signs of compensatory significance in the cranium and in the brain. Vop.neirokhir. 20 no.5:29-38 S-O '56. (MLRA 9:11)

1. Iz Nauchno-issledovatel'skogo ordena Trudovogo Krasnogo Znameni instituta neyrokhirugii imeni akad. N.N.Burdenko Akademii meditsinskikh nauk SSSR.

(CRANIUM, radiography,
(Rus))
(BRAIN, radiography,
(Rus))

USSR/Human and Animal Morphology - Normal and Pathological. S
Skeleton. Skeletal Anatomy

Abs Jour : Ref Zhur Biol., No 11, 1958, 50347

Author : Kopylov, M.B.
Inst :
Title : Intracranial Pressure and Cranial Bones

Orig Pub : Zh. nevropatol. i psikhiatrii, 1956, 56, No 3, 265-271

Abstract : When intracranial pressure in the bones of the cranium (C) increases, then osteoporosis and symmetrical as well as asymmetrical changes of the structure, form and size of C, may be ascertained roentgenologically. These changes are more markedly expressed in children of early age in whom calvaria of the skull is more frequently changed. In adults in whom C is fully developed, only the form and structure of the sella turcica and those of thin flat bones of C is upset. The area of visivle osseous changes is determined by the size of the surface

Card 1/2

USSR/Human and Animal Morphology - Normal and Pathological.
Skeleton. Skeletal Anatomy

Abs Jour : Ref Zhur Biol., No 11, 1958, 50347

receiving the pressure and depends on the place of location of the tumor, its size and rapidity of its growth. -- I.B. Barabash

Card 2/2

KOPYLOV, M.B., PLEVAKO, N.S.

KOPYLOV, M.B.

Problem of the genesis of aneurysms and angiomas of the brain.
Vop. neirokhir. 24 no. 3:37-44 My-Je '60. (MIRA 14:1)
(BRAIN—BLOOD VESSELS) (BRAIN TUMORS)

KOPYLOV, M.B.

Roentgenological signs of venous stasis of oral segments of the cerebral trunk. Zhur.nevr.i psikh. 61 no.2:280-284 '61.
(MIRA 14:6)

1. Nauchno-issledovatel'skiy institut neyrokhirurgii imeni N.N. Burdenko (dir. - prof. B.G.Yegorov) AMN SSSR, Moskva.
(BRAIN—BLOOD SUPPLY)

KOPYLOV, M.B., prof. (Moskva)

Posttraumatic vascular formations in the brain. Vop.neirokhir. no.4:7-12 '62. (MIRA 15:9)
(BRAIN—WOUNDS AND INJURIES) (INTRACRANIAL ANEURYSMS)

KOPYLOV, M.B., prof. (Moskva)

Pathology of deep veins in impaction of the brain into the tantorial foramen. Vop.neirokhir. no.4:20-23 '61. (MIRA 14:12)

1. Nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni institut neyrokhirurgii imeni akad. N.N. Burdenko AMN SSSR.
(BRAIN—WOUNDS AND INJURIES) (BRAIN—BLOOD SUPPLY)

IVANOV-DYATLOV, F.G., kand.med.nauk; KOPYLOV, M.B., prof.

Roentgenotherapy of tumors of the brain stem and the reactions of the cardiovascular system to the irradiation. Probl.sovr. neirokhir. 4:283-295 '62. (MIRA 16:2)
(BRAIN—TUMORS) (X RAYS—THERAPEUTIC USE)
(CARDIOVASCULAR SYSTEM)

AREND T, A.A., prof.; ARKHANGEL'SKIY, V.V., kand. med. nauk; BOGDANOV, F.R., prof.; BONDARCHUK, A.V., prof.; KOPYLOV, M.B., prof.; KORNEV, P.G., zasl. deyatel' nauki RSF[redacted]SLIK, M.I., prof.; LEYBZON, N.D., doktor med. nauk; MAKAROV, M.P., kand. med. nauk; NIKOL'SKIY, V.A., prof.; PODGORNAYA, A.Ya., doktor med.nauk; RAZDOL'SKIY, I.Ya., prof.[deceased]; ROSTOTSKAYA, V.I., kand. med.nauk; TUMSKOY, V.A., kand. med.nauk; UGRYUMOV, V.M., prof.; FISHKIN, V.I., kand. med. nauk; KHRAPOV, V.S., kand. med. nauk; CHIKOVANI, K.P., prof. [deceased]; SHLYKOV, A.A., prof.; PETROVSKIY, B.V., prof. zasl. deyatel' nauki RSFSR, otv. red.; YEGOROV, B.G., zasl. deyatel' nauki RSFSR prof., red. toma; MIRONOVICH, N.I., doktor med. nauk, zam. red.; PARAKHINA, N.L., tekhn. red.

[Manual on surgery] Mnogotomnoe rukovodstvo po khirurgii. Moskva, Medgiz. Vol.4. [Neurosurgery; the sequelae of lesions of the central nervous system. Diseases of the spine, the spinal cord and its membranes. Diseases of the vegetative nervous system] Neirokhirurgiia; posledstviia povrezhdenii tsentral'noi nervnoi sistemy. Zabolevaniia pozvonochnika, spinnogo mozga i ego obolochek. Zabolevaniia vegetativnoi nervnoi sistemy. 1963. 667 p. (MIRA 16:10)

1. Deystvitel'nyy chlen AMN SSSR (for Petrovskiy, Yegorov, Kornev). 2. Chlen-korrespondent AMN SSSR (for Bogdanov).
(NERVOUS SYSTEM—SURGERY) (SPINE—SURGERY)

KOPYLOV, M.B.; MADZHIDOV, N.M.

Changes in the cranial bones in leptomeningitis of the posterior cranial fossa. Vest.rent.i rad. 40 no.5:71-72 S-O '65.
(MIRA 18:12)

1. Nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni institut neyrokhirurgii imeni akademika N.N.Burdenko AMN SSSR, Moskva.

Kopylov, M.D.

KOPYLOV, M.D. (Vil'nyus)

Dermatitis bullosa caused by psoriasin, Vest.derm. i ven. 31 no.3:47-48 My-Je '57. (MIRA 10:11)
(SKIN--DISEASES)

KOPYLOV, M.D. (Vil'nyus)

On the question of buttercup dermatitis. Vest.derm i ven. 32 no.3 79 My-Je '58 (MIRA 11:7)
(SKIN--DISEASES)
(CROWFOOT--PHYSIOLOGICAL EFFECT)

KOPYLOV, M.K.

Cab of the "John Deer" grain combine. Trakt.i sel'khozmash. 32 no.4:48-p.3 of cover Ap '62. (MIRA 15:4)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut.
(United States--Combines)

KOPYLOV, M.K.

Compressor attachment to the "Ferguson" tractors. Trakt. i sel'-khozmash. 32 no.7:39-40 Jl '62. (MIRA 15:7)
(Great Britain tractors—Equipment and supplies)
(Compressors)

MICHKIN, I.A., inzh.; KOPYLOV, M.K., inzh.

Increasing the reliability of the work of fuel injectors. Trakt. i sel'khozmash. no.5:10-12 My '64. (MIRA 17:6)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut.

KOPYLOV, M.K.

"Haflinger"-700AP, a light amphibious unit. Trakt. i sel'khozmash. no.5:42-44 My '64. (MIRA 17:6)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut.

KOPYLOV, M.K.

A tractor driven land roller utilizing the weight of the tractor. Trakt. i sel'khozmash. 32 no.10:47-48 O '62. (MIRA 15:9)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut.

(Rollers (Earthwork))

KOPYLOV, M.K.

Testing a tractor cab of increased strength in England.
Trakt. i sel'khozmash. 33 no.3:46-47 Mr '63.
(MIRA 16:11)

KOPYLOV, M.K.

Characteristics of the valve mechanism of the VMS engine.
Trakt. i sel'khozmash. 33 no.10:47 O '63. (MIRA 17:1)

YASENEVICH, V.Ye.; KOPYLOV, M.K.; CHERNIKOV, B.P.

Results of testing the brake systems in truck trailer trains. Trakt. i sel'khozmash. 33 no.9:12-14 S '63. (MIRA 16:10)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut (for Yasenevich, Kopylov). 2. TSentral'naya mashinoispytatel'naya stantsiya (for Chernikov).
(Truck trailers—Brakes)

KOLOBOV, G.G.; KOPYLOV, M.K.

Tractors exhibited at the Italian Industrial Exhibitions in Moscow. Trakt.i sel'khozmash. 32 no.9:45-47 S '62. (MIRA 15:12)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut.

(Tractors) (Moscow—Exhibitions)

KOPYLOV, M.K.

A semitrailer with power takeoff from a tractor. Trakt. i sel'khozmash. 31 [i.e.32] no.11:47-48 N '62. (MIRA 15:12)
(Tractors—Trailers)

KOLOBOV, G.G.; KOPYLOV, M.K.

English wheeled tractors. Trakt. i sel'khozmash. no.10:
42-45 O '64. (MIRA 17:12)

KOPYLOV, M.K.

Spark arrester of the "Deutz" tractor. Trakt. i sel'khozmash. no.6: 47 Je '65. (MIRA 18:7)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut.

KOPYLOV, M.K.

The "Farmell"-560 tractor, Trakt. i sel'khozmash. no.4:47-48 '65.
(MIRA 18:5)

AUTHOR: Kopylov, M.S., Shop Manager 91-58-5-6/35

TITLE: Cooling of Furnace Panels by Feed Water (Okhlazhdeniye topochnykh paneley pitatel'noy vodoy)

PERIODICAL: Energetik, 1958, Nr 5, p 10 (USSR)

ABSTRACT: Boilers using solid fuel are cooled in different ways, mainly by water flowing around the boiler walls. In the article a new method is recommended. The water flows from the lower part of the feeding tank into the "cold" collector, and from there through pipe lines into the panels (3), and returns through the "hot" collectors (1) into the feeding tank (see Diagram). It is possible to install a forced circulation by using a pump (2). The control of this pump is carried out by a thermostat depending on the temperature of the feeding water in the "cold" collector. There is 1 figure.

AVAILABLE: Library of Congress

Card 1/1 1. Boilers - Cooling

KOPYLOV, N.V.; FOKAS, N.Ye.

Increasing our output. Mashinostroitel' no. 2:11 F '61.
(MIRA 14:2)
(Rubtsovsk--Tractor industry--Technological innovations)

1. KOPYLOV, M. V.

2. USSR (600)

4. Cactus

7. Grafting experiments with cactuses. Biul. Glav. bot. sada no. 11, 1952.

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

KUPILOV, M.V.

Sensitive palnt in open soil. Biul.Glav.bot.sada no.14:103 '52.
(MLRA 6:5)

1. Sukhumskiy botanicheskiy sad Akademii nauk Gruzinskoy SSR. (Mimosa)

KOPYLOV, M.V.

Cultivation of tropical aquatic and swamp plants in the Sukhumi Botanical Garden. Biul.Glav.bot.sada no.26:95-96 '56. (MLRA 10:2)

1. Sukhumskiy botanicheskiy sad Akademii nauk Gruzinskoy SSR.
(Sukhumi--Aquatic plants)

KOPYLOV, M.V.

USSR/Cultivated Plants - Ornamental. M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15902

Author : M.V. Kopylov
Inst :
Title : An Attempt to Cultivated Tropical Water and Swamp Plants in Sukhumi Botanical Garden.
(Opyt kul'tury tropicheskikh vodnykh i bolotnykh rasteniy v Sukhumskom botanicheskom sadu).

Orig Pub : Byul. Gl. botan. sada. AN SSSR, 1956, vyp. 26, 95-96.

Abstract : The assortment of water plants has been considerably enlarged with the introduction of Nelumbo nucifera, Victoria Cruziana, Eichhornia speciosa, Euryale ferox, Sagittaria nafans, Nymphaea cerulea, N. capensis, N. hybrida (a water-lily with red flowers), Limnocharis Humboldtii. Special basins, both rebuilt old ones and newly constructed ones, have been set up with a total area of 184 square meters.

Card 1/1

KOPYLOV, M.V.

Bicentennial of greenhouse culture of the banana in Oriental, Bot. zhur. 43 no.1:96 Ja '58. (MIRA 11:2)

1. Botanicheskiy sad AN Gruzinskoy SSR, Sukhumi.
(Banana) (Greenhouse plants)

DANILOV, A.D.; MUKHIN, G.I.; LENOV, M.; KISTANOV, V.; KOPYLOV, N.; KOSTENNIKOV, V.; MOSHKOVA, N.; LISOV, V.Ye., red.; KHOLIN, I.A., red.; PONOMAREVA, A.A., tekhn.red.

[Distribution of branches of the national economy of the U.S.S.R.] Razmeshchenie otraslei narodnogo khoziaistva SSSR. Pod red. A.D. Danilova i G.I.Mukhina. Moskva, Gosplanizdat, 1960. 331 p. (MIRA 13:11)

1. Moscow. Gosudarstvennyy ekonomicheskiy institut. 2. Kafedra ekonomicheskoy geografii Moskovskogo gosudarstvennogo ekonomicheskogo instituta (for all, except Kholin, Ponomareva).
(Geography, Economic)

KOPYLOV, N.A.

Repairing open-hearth furnaces. Bezop.truda v prom. 4 no.1: 26-27 Ja '60. (MIRA 13:5)

1. Verkhne-Isetskoye stroitel'noye upravleniye tresta "Uraldommaremont."
(Ural Mountain region--Open-hearth furnaces--Maintenance and repair)

GENDEL', E.M., kandidat tekhnicheskikh nauk; LAVRINOVICH, A.A., inzhener; KOPYLOV, N.A., inzhener.

Over-all mechanization of loading and unloading in conveying brick and slag concrete brick. Stroi.prom. 32 no.7:42-44 Jl '54. (MLRA 7:7)

(Bricks--Transportation) (Loading and unloading)

KOPYLOV, N. F., GINSBURG, N. N., TAMARIN, A. L., and SALTYKOV, R. A.

"The Question of Stability of the Basic Biological Features of Anthrax Vaccine Strain STI-I," pages 142-152 of the book Anthrax STI, Moscow, 1946.

Vaccine

USSR/Medicine - Anthrax Vaccine May 1947
Medicine - Vaccines

"Results of Application of Anthrax Vaccine STI During 1944 - 1946," I. F. Kopylov, N. N. Ginsburg, Scientific and Research Institute of Epidemiology and Hygiene of the Soviet Army, 2 pp

"Veterinariya" No 5

Mostly tabular results of the use of STI vaccine on horses, sheep, pigs, and deer during the years 1944 to 1946.

1778

KOPYLOV, N.G.

137-1958-1-47

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 9 (USSR)

AUTHOR: Kopylov, N. G.

TITLE: Evaluating the Handling Capacity of a Shaking Table (K otsenke transportiruyushchey sposobnosti kontsentratsionnogo stola)

PERIODICAL: Kolyma, 1956, Nr 4, pp 15-19

ABSTRACT: Bibliographic entry

1. Shaking tables--Capacity--Bibliography 2. Ores--Processing--Equipment

Card 1/1

YEFIMOVA, Ye.V., inzh.; KOPYLOV, N.G., dotsent

Selection of operating conditions for a reversible-type shaking conveyer and a concentration table. Izv. vsy. ucheb. zav.; gor. zhur. no.6:122-131 '60. (MIRA 14:5)

1. Leningradskiy tekhnologicheskiy institut pishchevoy promyshlennosti. Rekomendovana kafedroy tekhnicheskoy mekhaniki.
(Conveying machinery) (Ore dressing)