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SURVEY OF SOVIET HEAVY INDUSTRY (4)

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SURVEY OF SOVIET HEAVY INDUSTRY (4)

This is a series report, published approximately biweekly, which contains items of interest on Soviet heavy industry as reflected in articles, short news items, announcements, etc., appearing in various USSR publications. The items contained in this report fall under the broad categories listed below in the table of contents.

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## LOADING EQUIPMENT

### Mechanization of Freight Loading

The mechanization of difficult and labor-consuming processes connected with the transfer of loads is a complicated problem. About ten million so-called auxiliary workers, stevedores and drivers, are occupied with this type of work in our national economy. A huge army! Loading takes from 40 to 70% of general labor costs per product unit.

The country's freight turnover will grow to a total of 12.8 million tons by the end of the Seven-year Plan in 1965. At today's level of mechanization, more than half of this freight will be worked by hand. These are alarming figures! A year ago we acquainted the staff of the USSR Gosplan with them and made practical proposals. It was a matter of increasing the production of auto- and electric loaders.

These machines are produced primarily by our plant, which has produced tens of thousands of autoloaders

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### Mechanization of Freight Loading (cont'd)

of various types during the twelve years of its existence. But this is small, very small! In order to solve the problem of mechanizing freight handling, we must produce each year at least 50,000 various loaders, in other words, several times our present production. If the Seven-year Plan is not corrected, only half the necessary number of loaders will be produced.

How can we avoid this? By either building a new automatic loader plant or by expanding present facilities. In our opinion, reconstruction is the cheapest and most practical method. Take our enterprise as an example. It is separated from a locomotive-rolling-stock repair plant with 42,000 square meters of productive space, by only a light fence.

It belongs to the Ministry of Ways of Communications. But the L'vov Railroad has similar plants in Stanislav and in Stryy. They are both operating under capacity, and the comparatively small main line could get along without the L'vov plant. If it were to be given over to us, we would be able to raise our production to 40-50,000 autoloaders a year, which is exactly what is needed for the national economy.

Mechanization of Freight Loading (cont'd)

Less funds will be expended on reconstruction and expansion of production than on construction of a new plant or re-tooling an existing machine construction enterprise.

We cannot say that the USSR Gosplan staff do not sympathize with our proposals. In the machine construction department they have even prepared a plan for the expansion and specialization of autoloader production. According to this plan, the production of autoloaders with internal-combustion engines will be concentrated in L'vov, and those with electric motors -- in the Mordovsk and Sverdlovsk economic regions.

They helped us create a chief special design bureau and experimental shop. This department of Gosplan also supported our proposal to expand the plant at the expense of the neighboring railroad enterprise. Our plant's machine builders got busy. They quickly finished preparations for the production of new loaders, which are lighter, better designed, and have a faster operating lifting boom than the old models. Five new types of

Mechanization of Freight Loading (cont'd)

agricultural loaders were designed.

Unfortunately, we are forced to limit the production of these new and very necessary models. Obviously Gosplan is taking the heavy production burden on other loaders in our plant into consideration and is giving us only a small production quota of these new models. but why should the planning organs orient themselves on our weaknesses? Would it not be better to solve the problem in a radical way, by bringing the practical proposals into life which found support in the Machine Construction Department of Gosplan and by giving us the productive space of the locomotive-rolling-stock repair plant?

But the proposals have not been officially approved by Gosplan. They haven't even been considered. Comrade Rudoy, head of the USSR Gosplan Department of transportation and communication, is against it. Comrade Beshchev, the Minister of Means of Communication, is also against it. They do not want to give anybody the L'vov locomotive-rolling-stock repair plant.

### Mechanization of Freight Loading(cont'd)

The problem of our plant's reconstruction must be resolved as soon as possible. The fact that we have an experimental base for the testing of new machines speaks for the expansion of our plant. It needs only to be reinforced, not built all over again. This is advantageous also from the standpoint of time-saving and economizing of materials. We ask why the solution of this extremely clear problem is being put off? (Ekonomicheskaya Gazeta, 24 June 1960. Full translation).

### Autoloader Production

Stevedores should receive much more help from that part of industry which produces loading and unloading mechanisms. Neither the quantity of machines nor their variety answer the ever growing problems of labor mechanization which the June Planum of the Central Committee of the CPSU put before our national economy. In order to supply our national economy with auto-loaders, our industry must produce at least 20,000 units a year, while it produces at present only five or six thousand!

How can this be explained? First of all, the USSR Gosplan and the directors of some of the sovnarkhozes underestimate the significance of loader production. As an example, let us take the L'vov Autoloader Plant. According to the directives of the sovnarkhoz and the Gosplan of the Ukrainian SSR, it is supposed to be producing large quantities of loaders which do not even figure in its assortment. Here are the results of this: a modern autoloader, Model 4008, which is in such demand

Autoloader Production (cont'd)

by industry, was supposed to be mass-produced by the L'vov plant, but it has not yet started production. The plant is being hampered, for there is a lack of productive space. Comrade A. Gulyanitskiy, the plant's director, was right in his article in the Ekonomicheskaya Gazeta when he put forth the question of reconstruction and transformation of the plant into the chief enterprise for the production of loading and unloading machines. (Ekonomicheskaya Gazeta, 30 June 1960. Partial translation).

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New Turbine Compressor and New Coal Loader

The new KhTM turbine compressor is being tested at the Kazan' Compressor Plant. It can produce four million large calories per hour. In other words, it can replace almost five thousand "Saratov-2" refrigerators. The turbine compressor is for the Kuybyshev Synthetic Alcohol Plant.

The PTS-2 loader, which is produced by the Riga Mechanical Shops, is for work in the holds of coal-carrying ships. The harbor cranes pour the coal into the bunkers of the loader, and it loads the coal into any spot in the hold by means of a telescopic belt conveyor. The PTS-2 can transfer 150 tons of coal per hour and replaces 12 to 15 men. The loader is operated at a distance from a portable console. (Bakinskiy Rabochiy, 29 June 1960. Partial translation).

New Excavator and New Unloading Mechanism

An excavating crane is the latest innovation; the testing of which has just been completed at the Leningrad Excavator Plant. It is constructed on the base of the mass-produced "E-302". The new aggregate can remove 72 cubic metres of dirt per hour and can move at a speed of 14 kilometres per hour. The excavator is 35% more productive than its predecessor, its speed is almost one third greater, and its weight is the same. The machine is universal. It can also be used as a crane for moving a six ton load and as an assembly crane.

The Kazakh Scientific-research Institute of Truck Transport has designed an original truck unloader. Unloading of single trucks and truck-trailer combinations of any number is done in one continuous operation. The mechanism can be used in construction work for carrying dirt, sand, or gravel. Mass production of the new unloaders is being set up. (Stroitel'naya Gazeta, 18 November 1960. Partial translation).

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VEHICLES

Motorcycle Production

The millionth motorcycle produced by the Izhevsk Machine Construction Plant left the plant production line today. (Sovetskaya Rossiya, 10 July 1960. [Izhevsk, 9 July, by phone]).

### New Ultra Compact Automobile

Mass production of the ultra compact automobile, "Zaporozhets", will soon begin at the "Kommunar" Plant. The auto builders of the capital will help the Zaporozh'ye plant in a big way. The collective of the Likhachev Automobile Plant has produced much of the instrumentation for the "Kommunar" plant. The mechanical punch shop has sent to the Zaporozh'ye plant 63 punch and control attachment sets. Preparation of the punches for the instrument panel and the hood of the ultra compacts is now being completed. The Moscow auto builders are making thousands of complements of various parts for the "Zaporozhets" on their own equipment for the "Kommunar" plant. (Trud, 23 July 1960. Full translation).

### Improvements in the Moskvich Automobile

E. Kern from the city of Makeevka, one of our readers, wrote a letter to the editor on the shortcomings of the Moskvich automobile. The Director of the Moscow Small Automobile Plant, V. Polyakov, informed the editors that great effort is now being made to improve the car. The paint job will be bonded. This will increase its resistance to corrosion. Rubber mudguards will be hung behind the front and back wheels. The machine will have a four-gear transmission, a panel clock, fold-back seats without hand grips, and a turn indicator. (Trud, 19 July 1960. Full translation).

WASTES AND DELAYS

Oxygen Production Waste

Not long ago our republic's economy experienced a great need for oxygen. Many enterprises were bringing it in from Uzbekistan, a fact which caused unneeded expense to the state and caused work stoppage. Many industrialists, in seeking a way out of this difficult situation, tried to obtain the necessary equipment for setting up production of oxygen on the spot. Several dwarf oxygen plants were set up in Stalinabad. They are not at all economical, and all these installations are running at a loss.

The problem of obtaining this essential industrial gas has been completely solved with the construction of the oxygen installation at the Stalinabad Cement Plant. The capacity of the installation is such that enough oxygen can be produced in 24 hours to take care of the needs of not only the capital but of the entire republic.

It would seem that there is no need to talk on this subject. However, the owners of the dwarf oxygen

Oxygen Production Waste (cont'd)

installations, the directors of the Plant imeni Kirov, the airport and the electromechanical plant have stubbornly refused to stop producing their own oxygen, are hindering the work of our oxygen installation and are causing great losses to the state.

For proof I shall give a few figures which characterize the uneconomical relation to materials and labor expenditures. 40 men work at the three oxygen installations named. They produce one third as much as our installation, although we employ only 12 persons. Tens of thousands of rubles are wasted in salaries alone. If we consider the expenditure of electricity, which exceeds the norm, and other production expenses, the "dwarf" could compete with any "giant" in its greediness.

The parallel existence of several oxygen installations limits the work of a well-equipped and highly-productive installation. Because of a lack of volume of orders, the oxygen installation of the cement plant is forced to work at a reduced capacity. In addition, there are days when the production of oxygen is forced

Oxygen Production waste (cont'd)

to stop altogether.

Even in such an abnormal situation, our collective is producing high-quality oxygen, is lowering production costs, and is effecting a savings in electrical energy. If the city's existing oxygen installations were to be liquidated and our installation were to be allowed to operate at full capacity, there would be plenty of oxygen and there would be a great savings in state funds.

The sovnarkhoz and the city organizations must settle the question of oxygen production without delay. We cannot allow individual enterprises which wish to have their own supply of oxygen to spend sums on its production which are several times greater than that allowed. (Kommunist Tadzhikistana, 28 June 1960. Full translation).

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Construction Delays

The equipping of the Karaganda and Kuybyshev Synthetic Rubber plants is causing serious alarm. Construction in Karaganda is going along extremely slowly, although there is a sufficient quantity of equipment, armatures, and control-measurement instruments in the warehouses, and it seems that there is no basis for the government to postpone the deadline for the second time. Things are different in the Kuybyshev Economic Region. The Moscow "Kompressor" plant should have delivered five 5 KG compressors. Everything is ready for them. But the compressors never arrived, and the order was transferred to the Penza plant. Now the reinforced concrete foundations must be torn down and new ones put up, an operation which will naturally delay and heighten the expense of construction. (Ekonomicheskaya Gazeta, 28 June 1960. Partial translation).

Construction Delays in the Chemical Industry

The complex of caprolactam and urea shops at the Lisichansk Chemical Combine has been named a priority Komsomol job. Competing to put the new units into production ahead of schedule, the young construction workers have considerably increased the pace of work. One would think this were something to be happy about, but it is not. Right when everything seems to be going right, the hitch comes. They have had no work delays, but the delivery of much material and equipment is still being handled according to the old schedule.

The paper merry-go-round whirls, but the finished agitators have stood for six months without moving. The "Tambovkhimmash" plant has not yet sent the motors and reduction gears for them.

During our visit at the Poltava Turbomechanical Plant we came across the unpleasant fact of precedence. Taking advantage of the division of the Poltava Oblast' into an independent economic region, the directors of the Khar'kov Sovnarkhoz "gathered up" the stainless steel which was for filling the orders of chemical plants.

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Construction Delays in the Chemical Industry (cont'd)

Therefore, the deadline for delivery to the Lisichansk Chemical Combine was put off three months.

A mixup in the production of equipment can be found at the Kiev plant, "Leninskaya Kuznitsa". They were supposed to produce 121 heat displacement units. The plant directors produced short by 44 units and sent them to "Soyuzglavmash". The latter sent them back. Correspondence is fairly flying, and the deadline for putting the most important units of our combine into operation is rapidly approaching.

The Fastovsk plant, "Krasnyy Oktyabr'", has not yet received the funds and materials ordered for the third quarter. The directors of the Kiev Sovnarkhoz should give this serious thought. They should not only think, but they should correct the situation which has arisen at the plant. (Pravda Ukrainy, 24 June 1960. Partial translation).

## MACHINE TOOLS AND PRODUCTION PROCESSES

### T-Beam Conveyer Line

A conveyor line for the production of welded double T-beams has been set up at the Metal Construction Plant imeni Babushkin. Beams from 600 millimetres to two metres in height and up to 600 centimetres in shelf width will be produced on it. The basic processes are mechanized and automated. High-speed three electrode automatic welding under a layer of flux is being used for the first time in welding. The technology of the production of welded double T-beams was developed by the Electric Welding Institute imeni E. O. Paton of the Ukrainian SSR Academy of Sciences. (Kommunist, 7 August 1960. Full translation).

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### Modernization of Machine Tools

The Leningrad Machine Builders have accomplished great tasks in the eighteen months since the XXI Party Congress. The Machine Tool Builders and the tool plants of the Administration of Machine Construction have produced in this period more than 100 new machine tools and instruments, the quality of which are in no way inferior to foreign makes. Instrument plants have brought more than 45 new models of perfected optical-mechanical instruments into production.

However, together with the new models, we are still producing many types of obsolete machine tools, instruments, and machinery. After the June Plenum of the Central Committee of the CPSU, 330 machine-tool construction implements were inspected. 100 of them were obsolete. They are gradually being replaced. Modernization and replacement of obsolete tools will be basically completed in 1961. Starting in the second half of 1962, there will be no more old models being produced by the Leningrad Machine tool plants.

Modernization of Machine Tools (cont'd)

In spite of the increase in production of high-accuracy and special machine tools, the backwardness in this branch of industry cannot be considered as overcome. We are still not satisfying the demands of industry for high-accuracy machine tools. The plants imeni Il'ich are also having trouble putting in some models of automated machine tools. Our administration's special grinding tool design bureau is behind in the development of new models.

The Leningrad machine tool builders, in creating new machine tools, machinery, and instruments, are also thinking of how to raise the technological level of this production, of the mechanization and automation of labor-consuming operations, the modernization of their own stock of equipment, etc. In the past year, 57 aggregate machine tools, saving about 500,000 rubles, were introduced into production, and 232 metal cutting tools were modernized. Often a qualitatively new technique is developed in the process of modernization. For example, such are the machine tools programmed for the plants

Modernization of Machine Tools (cont'd)

imeni Sverdlov and the automated and semi-automated machine tools of the plant imeni Voskov.

In spite of this, we cannot say that everything has been done in the area of perfecting production, complex mechanization and automation of technological operations at the enterprises of our administration. Work is being done in this direction, but not at the pace which is demanded from us by the seven-year Plan. In the first half year, for example, several shops were supposed to receive complex mechanization and automation. The work has been completed in only one of them. Only five sectors of complex mechanization out of twenty six have been activated.

What do these figures tell us? They tell us that the heads of several enterprises have shown a lack of responsibility in the problems of the complex mechanization and automation of laborious processes. The carburator plant is in particularly bad shape. This example can show us how not to do it. Complex mechanization of the galvanic shop was understood in a peculiar way: they

Modernization of Machine Tools (cont'd)

installed several automated units, but the hand operations -- the hanging and removal of parts -- remained non-mechanized. We would like to say here that this mechanization plan was worked out by one of the Moscow institutes. This does no honor to the planner, but it does not exonerate the buyer who agreed to such a miserable plan. The workers of the plant have taken no measures to improve the situation and get the shop going in the near future.

Much depends on the determination of the machine tool builders' collectives in the battle to speed up the mechanization and automation of production. However, time is not precious everywhere. Delays are noted in the issuing of projects to the planners for the complex mechanization of the shops in the Vyborg Elektroinstrument Plant, the Plant imeni Voskov and others. At some plants they don't even know how to figure up the advantages and the economic effectiveness of the mechanization and automation of technological processes, nor do they know how to calculate the savings to government

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Modernization of Machine Tools (cont'd)

funds. For example, 10 years will be required to amortize the expense of installing the drill and tap assembly line at the Plant imeni Voskov.

Backwardness in mechanization and automation is also connected with the fact that the planners are lagging with the plans for technical documentation. The Giprostanok Institute is way behind in the planning of the complex mechanization and automation of labor-consuming processes at the Il'ich Abrasives Plant, and this is after long conferences with the director of the plant, Comrade Tunik. There are many similar cases. The plants of the Machine Construction Administration should have received from the designers the blueprints for the complex mechanization and automation for 22 shops and units at the beginning of the year, but they have received only eight. Only half of the necessary documentation is ready for the assembly lines. The majority of these planning organizations are not subordinate to the Sovnar-khoz, and it is difficult to put any pressure on them. We think it would be proper to raise the question of

Modernization of Machine Tools (cont'd)

liquidation of the administrative barriers between the sovnarkhozes and the branch planning organizations at the coming Plenum of the Central Committee of the CPSU.

Most of the attention of the producers is now directed on a search for methods of speeding up technical progress. But we still have plants where they continue to maintain backward ideas. When one asks the machine tool equipment plant directors: "Why don't you have any assembly lines?", they answer that they produce too large an assortment of tools. This excuse can hardly be accepted. Experience has shown the excellent possibilities of increasing labor productivity, even with a large tool assortment. These are alternating-assembly lines which can be readjusted to several similar tools. At the machine tool equipment plant, the majority of the tools are of this category.

Alternating-assembly lines are in successful use at our administration's State Optical-mechanical Plant. Also in use here is a conveyor, a feeding control which is operated automatically from the central dispatch point.

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Modernization of Machine Tools (cont'd)

Preparing for a worthy greeting to the Plenum of the Party's Central Committee, the plant collective assumed the additional socialist obligation of fulfilling the Seven-Year total production plan ahead of schedule and to produce goods only of top quality. The office of the Oblast' Committee of the CPSU and the Sovnarkhoz have supported and approved this initiative. This patriotic beginning is being discussed at all the administration's plants, and new possibilities of growth are being sought.

These possibilities are great. Reviewing the technical plans, the collectives of the enterprises in the Machine Construction Administration have decided to introduce an additional 95 models of machinery and instruments in honor of the July Plenum of the Central Committee of the CPSU. 20 of these will be introduced by the opening of the Planum. The mass production of 10 machines and instruments will be organized ahead of schedule. The deadline for a whole series of technical measures has been moved up from the fourth to the third quarter of this year. An additional 1,000 assem-

Modernization of Machine Tools (cont'd)

blings of universal-assembling equipment will be accomplished above the planned total, and 1,500 more parts will be shifted to a group technology.

Early fulfillment of the semi-annual plan and the creation and introduction of new types of products which are necessary for the further technical progress of our industry will be reported by the Leningrad machine builders to the July Planum of the Central Committee of the CPSU. (Leningradskaya Pravda, 24 June 1960. Full translation).

Automobile Plant Automation

Our correspondent appealed to the head of the technological department of the Automobile Plant imeni Likhachev, Grigoriy Ivanovich Barylev, to tell us about the complex mechanization and automation at the enterprise. "Our plant is now producing three vehicles; one automobile and two trucks. Their assembly takes place on 11 automated lines, including a cylinder block line. Besides that, our shops have hundreds of semi-automated lines. Up to 40% of all machine tools are operated automatically.

We have many common types of machine tools, on which individual parts are worked. Our designers have decided to make automatic conveyor lines out of them. This is a difficult and important task. Many original adaptations must be made in order that the parts be automatically transferred from one machine tool to the other.

Recently a group of designers, under the leadership of Engineer Anatoliy Akimovich Agafogov, created an automatic flywheel machining line out of ordinary machine tools. This was the first such line in our country. Now Comrade Agafogov is designing a new automated line

Automobile Plant Automation (cont'd)

for grinding gear-box rollers. The second group of designers, including V. Kapyrin, I. Uktarev, and V. Prokorov, created an automated line out of gear-milling tools. All this has a meaning not only for our plant, but for all machine construction enterprises.

We are paying much attention to auxiliary processes. Many plants have poorly mechanized loading, unloading and parts transport facilities. We are also behind in this sector. Such heavy parts as the frame, the center body section, and the front end are delivered within a space 500-600 metres. We have just worked out an original hanging conveyor system. Parts will be transported from shop to shop through the air. But this is only part of our work. A general plan for mechanization and automation of production has been prepared. 170 automated lines will be organized. Automation will have a great effect. 80 workers and 12 adjusters are now working on cylinder heads. After the automation of these processes, the number of workers will be 20 times less. 6.23 minutes are now expended on carter coupling, and

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Automobile Plant Automation (cont'd)

only one minute will be used under automation.

Starting in 1962, mass production of the ZIL-130 and the ZIL-131 will commence. It is worthy of notice that the automation of production and the preparation for production of the new models will be effected without shutting down the conveyors. (Ekonomicheskaya Gazeta, 7 August 1960. Full translation).

## MACHINERY

### Compressor Production

The collective of the Andizhan plant, "Strommashina", is celebrating the opening of the Plenum of the Central Committee of the CPSU with a fine gift of labor. Mass production of the AV-75 compressor has commenced, the first in Central Asia. This compressor is for refrigeration use in the food industry. Each compressor is designed to produce 75,000 large calories per hour. This year the Andizhan machine builders will produce 300 compressors. (Pravda Vostoka, 14 July 1960. Full translation).

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### Increased Machinery Production

The second year of the Seven-year Plan is a signal one for the collective of the Machine Construction imeni Stalin. This year it is doubling production. It is no easy task to do this in the course of one year without expanding in production facilities. However, the collective is successfully dealing with its task and fulfilling its production plan. It continues to be among the leading enterprises in Bobruysk and is greeting the July Plenum of the Central Committee with remarkable labor successes.

1960 is signal not only because of this. The plant has taken an important step toward the improvement of the quality of its production. The technologists, welders, and moulders have been working on a special high durability alloy for 18 months. Dozens of test alloys were made, and many failures were overcome. Finally the necessary alloy was found. Tests on the dredge which was constructed of this alloy showed that the life of the machine was increased by 20 times.

Increased Machinery Production (cont'd)

A year has passed. The plant started mass-production on pumps of the high chrome-content alloy. Their industrial use has completely confirmed the high durability of the machines. The life of the pumps has increased from 13 to 20 times, depending on the conditions of use. Use of this new equipment has saved one and a half million rubles a year for the Southern Krivoy Rog Mining Combine alone, and altogether the new pump has saved thirty million rubles.

Many of the country's machine construction enterprises and scientific-research institutes are interested in the technique of preparation of the new alloy. The plant collective gladly shares its experience and gives out the formula of the alloy and the process of its preparation. Plant innovators have themselves designed and built a cutting instrument and are furnishing other enterprises with blueprints and test models. This is the gift of the Bobruysk machine builders to the July Plenum of the Central Committee of the CPSU. (Sovetskaya Belorussiya, Minsk, 12 July 1960. Full translation).

New Air Blowers

Six powerful air blowers for the Novo-Krivorozhskiy Mining Combine have been ordered for this year from the Nevskiy Machine Construction Plant imeni V. I. Lenin. Competing for a worthy greeting to the July Plenum of the Central Committee of the CPSU, the collective sped up delivery of equipment to the priority construction project. The fourth agloeksgauster -- with a productivity of 6500 cubic metres of air per minute, the largest super-charger now used in the steel industry -- has been sent out. The last two will be sent out in October and December.

The Nevskiy machine builders recently sent the Krivorozhskiy Metallurgical Plant a blast-furnace compressor and the steam turbine which activates it. During the third quarter two more compressors, with a productivity of 1500 cubic metres of air per minute will be produced for this enterprise. (Pravda Ukrainy, 19 July 1960. Full translation).

### Rolling Mill Equipment

The Electrosteel Heavy Machine Construction Plant is producing powerful rolling and mining equipment. The rolling mill family produced by the plant will soon be supplemented by new, unique models. The design bureau of the pipe mills department is now working on the powerful "820", which will roll large-diameter seamless pipes.

Working out the latest types of machinery, the plant designers are simultaneously solving another important economic problem, that of saving metal by creating more perfect designs and using reinforced concrete for the preparation of individual parts. The great army of time-savers and inventors is an active fighter for technical progress at the enterprise. Thanks to their efforts, more than five million rubles will be saved this year. (Ekonomicheskaya Gazeta, 6 August 1960. Full translation).

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### New Road Ballast Equipment

The Ukrainian Republic's Rabochaya Gazeta published the following a few days ago. "The first model of the D-337 ballast layer came out of the gates of the Nikol-ayevsk "Dormashina" Plant. Plant designers, Comrades Checkov and Yudin, together with the collective of the Minsk Design Bureau, created a high-productivity road aggregate which has no equal in machine construction anywhere in the world."

"Up to now," says the chief designer of the Machine Construction Administration of the Kherson Sov-narkhoz, Comrade Sidorenko, "the laying and packing of the ballast was done either by hand or by three separate machines: a bulldozer, grader, and a five-ton steam roller. The new machine successfully replaces all mechanisms and is operated by only two persons." (Sov-etskaya Belorussiya, 7 August 1960. Full translation).

New Automatic Machinery

The elevator-cart moves automatically along the four shelves. The cabin moves 25 metres horizontally and 4.5 metres vertically. One after another, the shelves fill up with commodities. This is the mechanized warehouse which was built at the Ural Automobile Plant according to the design of Engineer Yu. Kliot. The warehouse is serviced by two female storekeepers. Mechanization of the warehouse will save 120,000 rubles a year.

A sheet steel stacker for the Magnitogorsk Metallurgical Plant was produced by the Irkutsk Heavy Machinery Construction Plant imeni Kuybyshev. Built to the specifications of the Novokramatorsk designers, the sheet steel stacker will service Europe's largest rolling mill, the "2500". The machine cuts and packs sheets with a thickness of  $1\frac{1}{2}$  to 6 millimetres and of a width of one to 1.35 metres.

The collective of the Irkutsk plant is preparing to produce several other large mechanisms. The Soviet Union's first revolving, reversable pouring machine for

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New Automatic Machinery (cont'd)

copper anodes, which will completely automatize the process, has been designed and approved. Instead of the seven or eight men who service the machines now being used, only two persons will work on the new machine. An automatic anode remover, an automatic sprayer, and a mechanism for lining the pintles as well as removing and lubricating the cracker have been developed for the machine. The operator's cabin is hermetically sealed.

The design for a revolving pourer for nickel has been started. The vertical water-cooled emanators will be tripled in number. This will assure a higher quality to the casting. (Ekonomicheskaya Gazeta, 6 August 1960. Full translation).