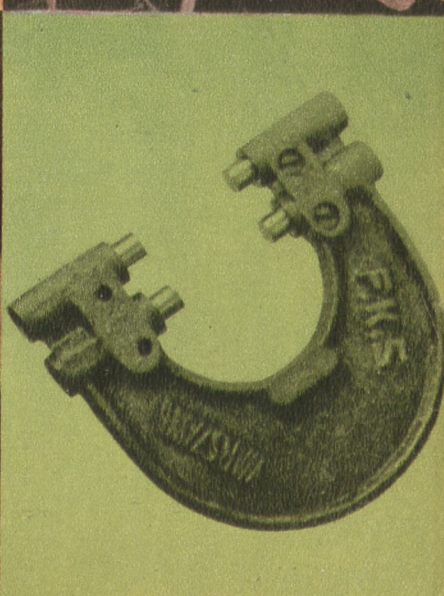
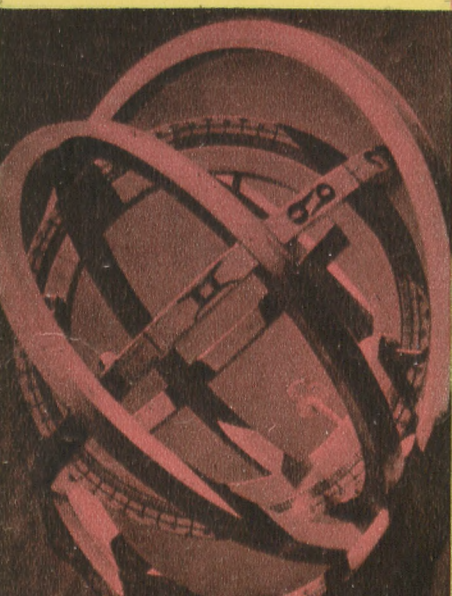
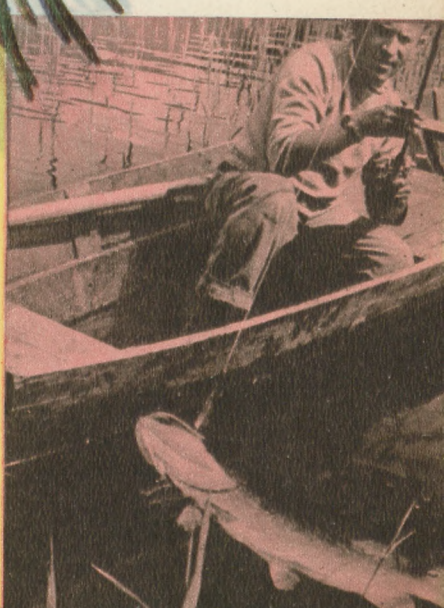
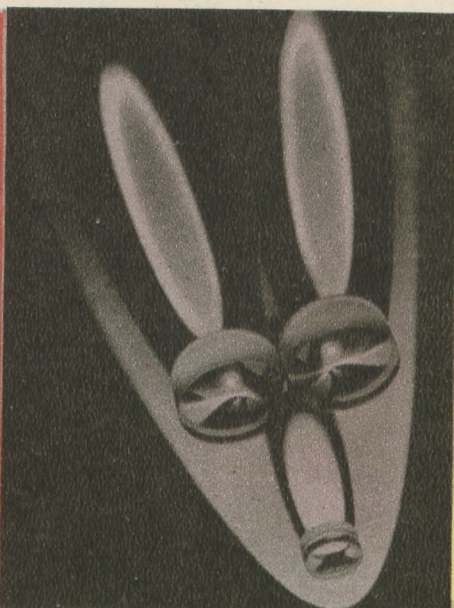


# POLISH

FOREIGN  
TRADE

03361









# POLISH FOREIGN TRADE

NOVEMBER — DECEMBER 1951  
BIMONTHLY PUBLICATION IN RUSSIAN,  
ENGLISH, FRENCH, SPANISH AND GERMAN

PUBLISHED BY THE POLISH CHAMBER OF FOREIGN TRADE  
WARSZAWA • HOZA 35 • TELEGRAMS: "IHAZET"

## C O N T E N T S

	Page
Optical Glass in Blocks . . . . .	7
Ancient Astronomical Instruments in Poland . . . . .	11
Polish Optical Instruments . . . . .	13
Zinc Compounds as an Export Commodity . . . . .	18
Products of Destructive Distillation of Wood . . . . .	25
Tables for Draughtsmen . . . . .	29
Polish Gauges . . . . .	33
Polish-made Water Meters . . . . .	36
Polish Woollen Fabrics . . . . .	40
Polish Dolls . . . . .	45
Polish Table and Fancy Earthenware . . . . .	50
Polish Tomophane in World Markets . . . . .	55
Polish Synthetic Fishing Cast . . . . .	57
The Polish Onion . . . . .	61
The Quality of Polish Sugar . . . . .	62
Basketwork . . . . .	64

No. 8

ADMINISTRATIVE OFFICES: P. P. POLSKIE WYDAWNICTWA GOSPODARCZE  
WARSZAWA • POZNAŃSKA 15 • TELEGRAMS: "POLGOS"



*Drawings and colour-plates by: St. Bilas, A. Cetnarowski, T. Dworzanski, T. Gronowski, W. Horn, M. Kaluzny, St. Kopf, A. Łacki, W. Perkowski, A. Seifert, Z. Strychalski, St. Tomaszewski, A. Trzeciecka, L. Włodarczyk, L. Wyczółkowski*

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*The pages of our magazine are devoted to matters dealing with the production and export of Polish goods — the fruits of the determined efforts, creative and happy work of the Polish nation. Relaxation after work is just as happy, the hours of leisure being devoted to cultural amusements. The joy of work, music, poetry and folk dance tend to make our life increasingly pleasant.*

*The opening pages of our magazine contain, on the occasion of the approaching festive season, reproductions of three folk dances most popular in our country — the Krakowiak, Kujawiak and Trojak — dance of the Silesian miners.*

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*Printers: Drukarnia „Czytelnika” Nr 3 w Krakowie*



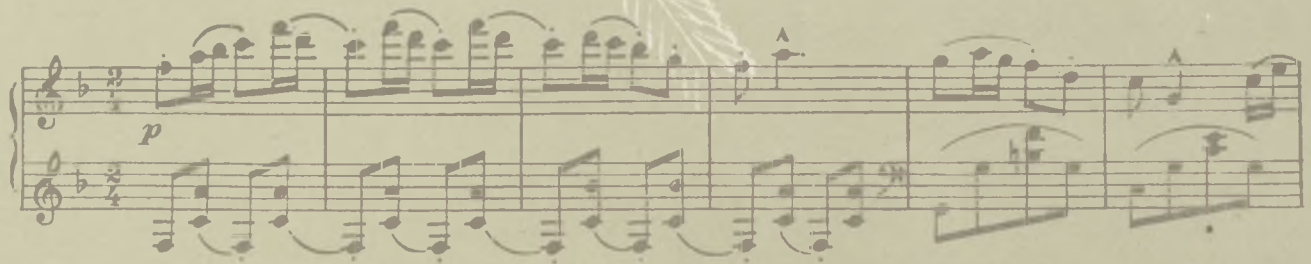


To Our Readers  
Greetings and all Best Wishes for  
a Very Happy New Year from  
the Editorial Staff of  
"Polish Foreign Trade"





## KRAKOWIAK



(Chopin: Krakowiak op. 14.)





## KUJAWIAK

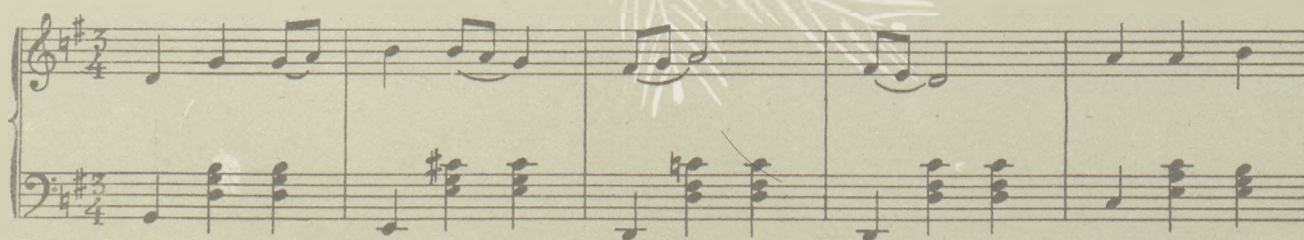
*fz* *dolce*

( Chopin: Wielka Fantazja op.13

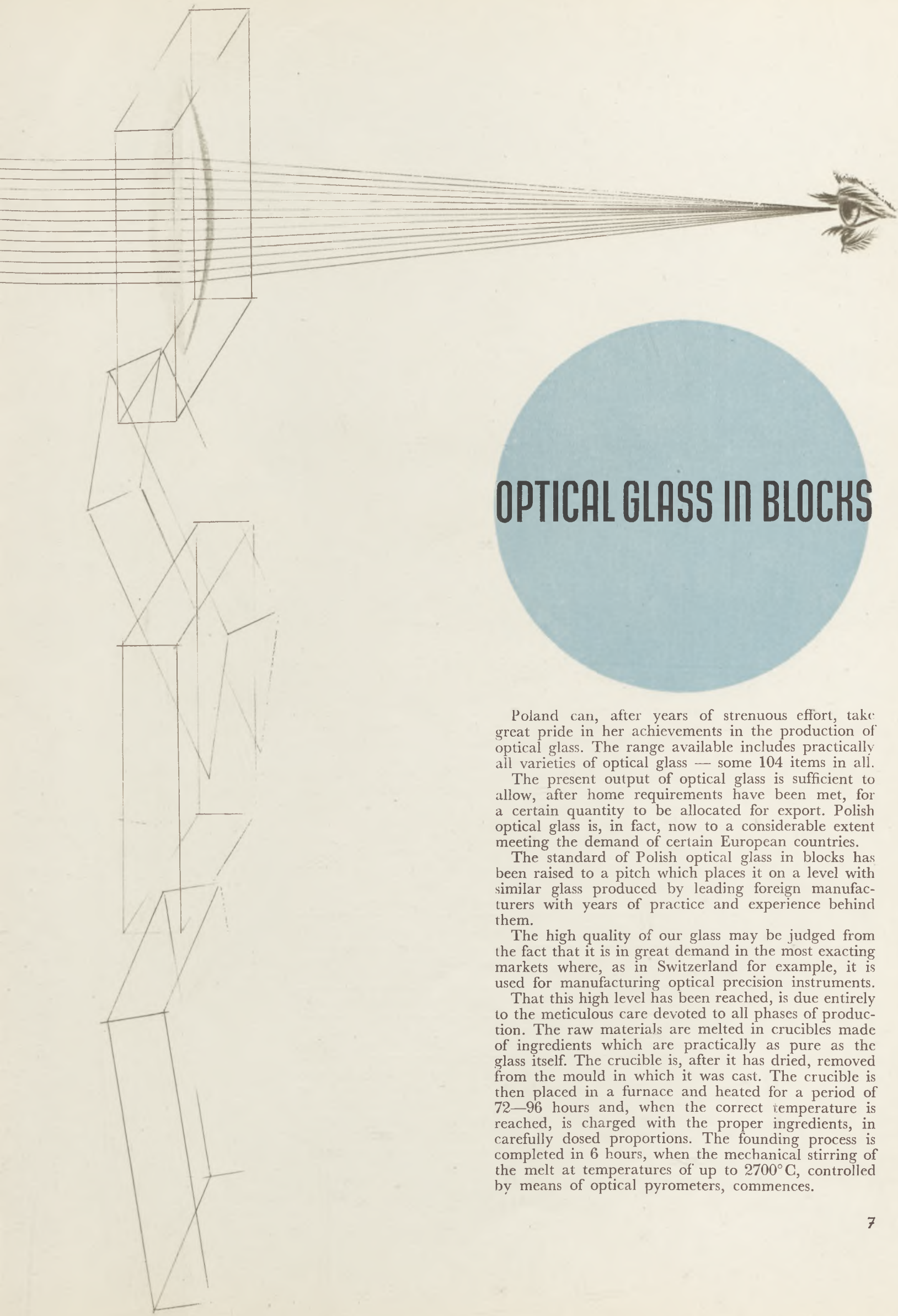




# TROJAK







## OPTICAL GLASS IN BLOCKS

Poland can, after years of strenuous effort, take great pride in her achievements in the production of optical glass. The range available includes practically all varieties of optical glass — some 104 items in all.

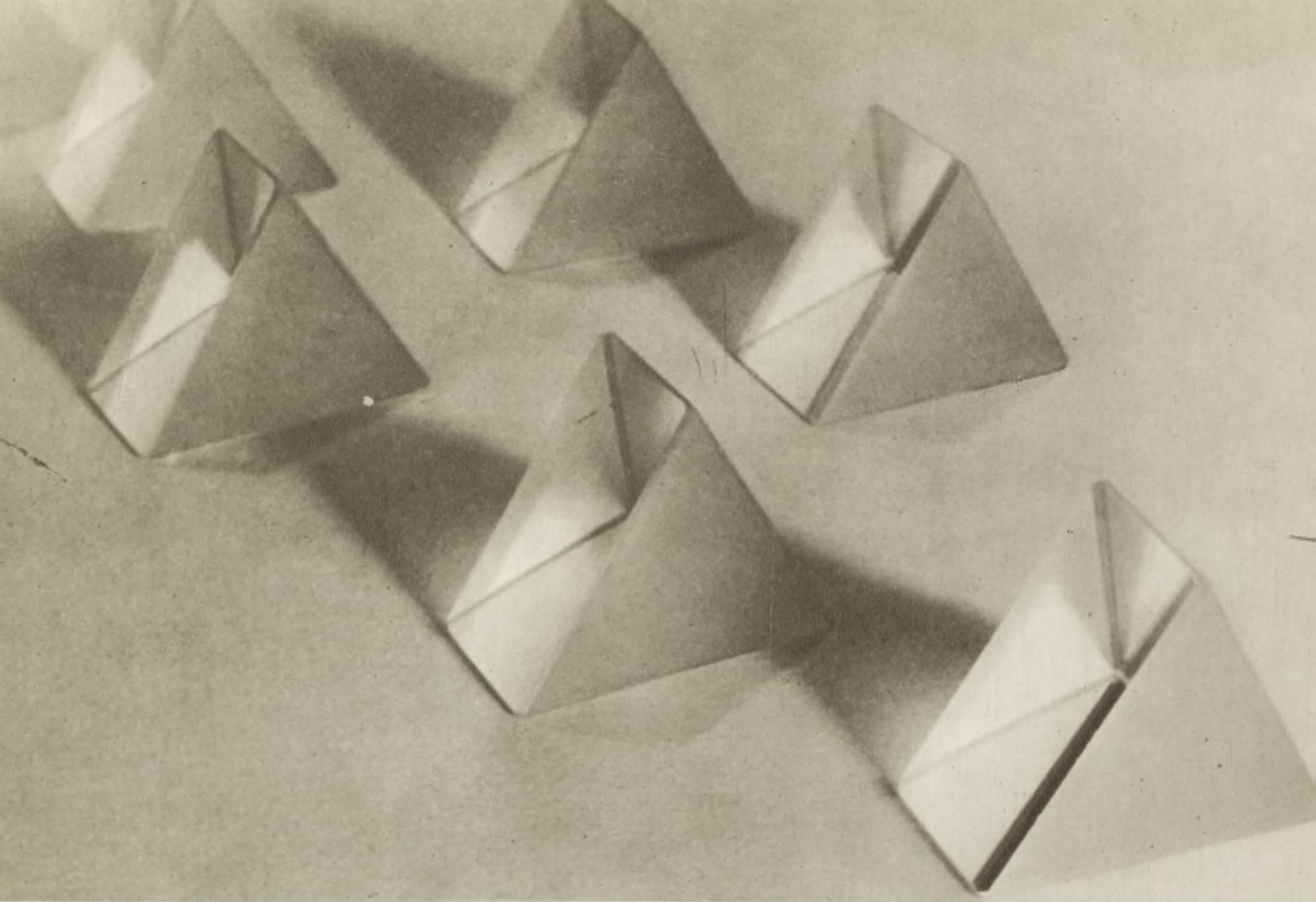
The present output of optical glass is sufficient to allow, after home requirements have been met, for a certain quantity to be allocated for export. Polish optical glass is, in fact, now to a considerable extent meeting the demand of certain European countries.

The standard of Polish optical glass in blocks has been raised to a pitch which places it on a level with similar glass produced by leading foreign manufacturers with years of practice and experience behind them.

The high quality of our glass may be judged from the fact that it is in great demand in the most exacting markets where, as in Switzerland for example, it is used for manufacturing optical precision instruments.

That this high level has been reached, is due entirely to the meticulous care devoted to all phases of production. The raw materials are melted in crucibles made of ingredients which are practically as pure as the glass itself. The crucible is, after it has dried, removed from the mould in which it was cast. The crucible is then placed in a furnace and heated for a period of 72—96 hours and, when the correct temperature is reached, is charged with the proper ingredients, in carefully dosed proportions. The founding process is completed in 6 hours, when the mechanical stirring of the melt at temperatures of up to 2700°C, controlled by means of optical pyrometers, commences.





After a carefully predetermined time cycle, during the last 6 or 7 hours of which the temperature is gradually reduced, the crucible is removed from the furnace by a special truck, the dense and sticky melt being allowed to cool gradually in special kilns in which the rate of cooling is strictly controlled. This slow annealing process causes the glass to split up into large chunks, allowing for the crucible to be broken off. The chunks are then examined, to make certain that they are free from defects, and broken into lumps of the appropriate size.

The optical characteristics of each melt are determined according to refraction and dispersion factors. The refraction and dispersion factors for a range of spectral lines are given in the following table:

Wavelengths are expressed in millimicrons.

Colour	Red		Yellow		Green	Blue		Violet	
Line denomi- nation . . .	A <sup>1</sup>	C	D	d	e	F	g	G <sup>1</sup>	h
Element . .	K	H	Na	He	Hg	H	Hg	H	Hg
Wavelength .	656.3		587.6			486.1		434.0	
	768.2		589.3		546.1	435.8		407.7	

It will be sufficient, in order to indicate the basic optical properties of glass, to quote the refraction factor for the yellow line "d" of helium and the difference between the refraction factors for the blue line "F" and the red line "C" of hydrogen, "n<sub>F</sub>-n<sub>C</sub>", or the mean dispersion "F-C", alternatively the Abbé number

$$V_d = \frac{n_d - 1}{n_F - n_C}$$



The dispersion curves for other colours are determined by the partial dispersions: "C-A", "e-C", "F-e", "g-F", "h-g" and by the ratio of these dispersions to average dispersion.

These factors are, for each melt of optical glass, determined by means of an accurate spectrometer, with a tolerance of

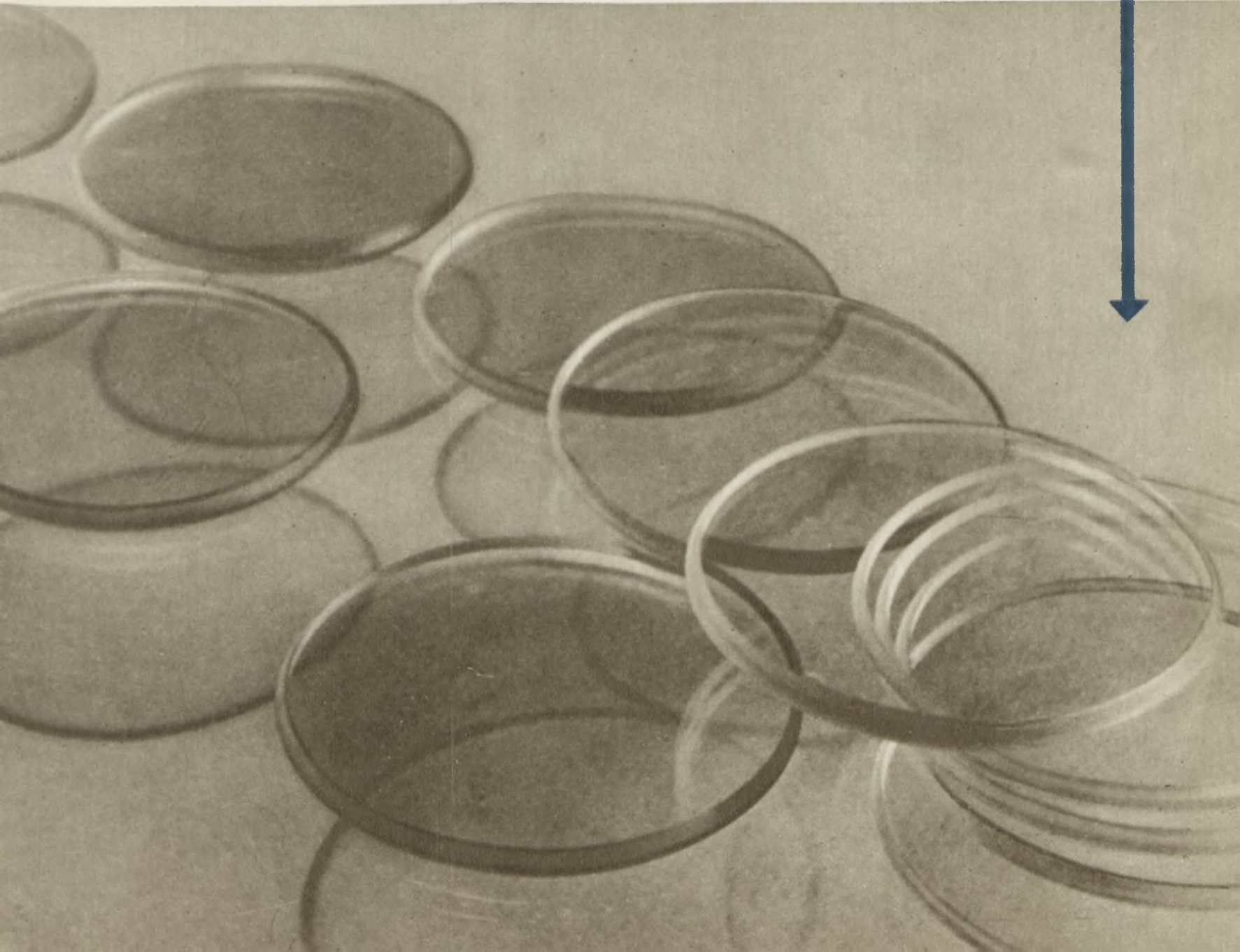
- $\pm 0.00005$  for the refraction factor, and
- $\pm 0.00002$  for the dispersion factor.

Deviations from these values in Polish melts do not, as a rule, exceed  $\pm 0.001$  in the case of the 'd value and  $\pm 0.5$  in the case of 'd value. The values of the ratio between partial dispersion and mean dispersion remain practically unchanged.

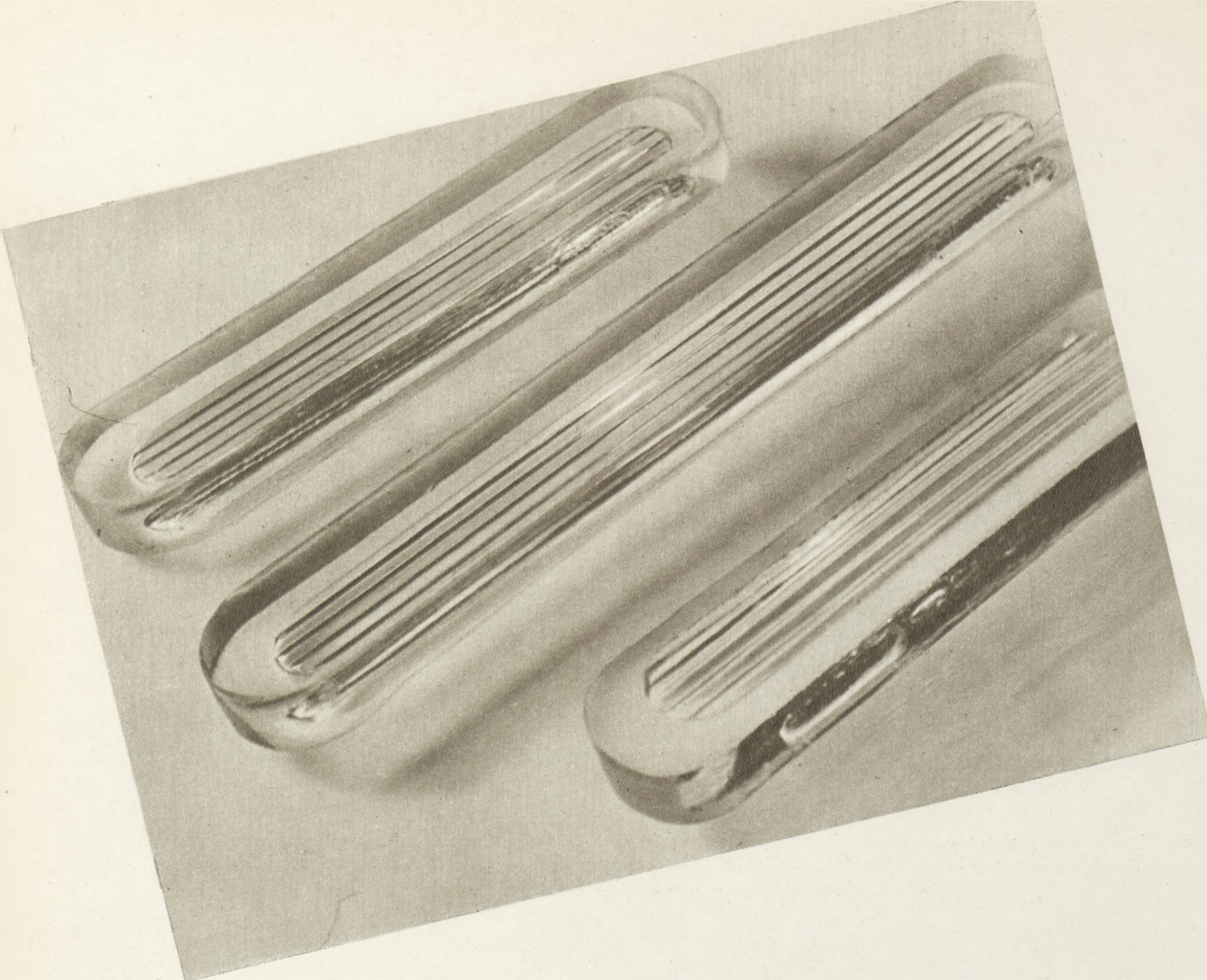
Each block of optical glass is, prior to being qualified for lens or prism manufacture, again examined to ensure that it contains no impurities, air seed, deformations or blurs. The blocks are ground on two opposite surfaces and examined by means of a striaescope to discover any deviation from the refraction index too minute to be detected by the naked eye.

It is obvious that at each of the production phases there are bound to be pieces which have to be scrapped, so that only a small part from each melt is passed as

The export list of Polish optical glass covers some 104 items, representing all varieties of optical glass in blocks. Polish glassworks supply optical glass in the following forms: a) blocks of random size, b) blocks in sizes to order, c) pressings. Our illustrations show: pressed glass (left) and spectacle lens glass (below)







"Barex" glass

complying with the high quality standards effective in Poland.

Blocks which have passed the test are cut to the requisite size. This operation is performed by specialists, skilled in the processing of this valuable material with a minimum of waste.

Typical qualities of optical glass used in modern optical instruments include crown, borosilicate crown, fluor crown, barium crown, flint, crown flint, light flint and barium flint glass.

Each of these types has different characteristic features of value to lens manufacturers.

The rapid development of the optical instrument industry in Poland has brought an increased call for optical glass. Our optical glass works are, however, in a position to meet even the growing demand of foreign customers, and deliveries can be made in reasonable time.

Our glassworks supply the following range of optical glass:

- a) blocks of random size
- b) blocks in sizes to order
- c) pressings

The size of blocks does not, as a rule, exceed  $200 \times 200 \times 200$  mm. The most common thickness of slabs is from 10 to 30 mm. Other dimensions vary. The weight of blocks is from 0.5 to 2 kg each.

Slabs of a specified size can be supplied to order. We can, moreover, supply slabs which have been

examined for blurs in two or three directions, as well as slabs for astronomical lenses which have been put through a specially careful examination for blurs and have been annealed at a specially slow rate.

We are endeavouring to supply, against customers' orders and whenever possible, pressings, in view of the saving in material, in the cost of processing and in auxiliary materials offered by this form of glass.

The diameter of pressings is greater than that of finished lenses, so as to leave a margin for centering; this margin, in the case of lenses of diameters up to 50 mm, amounts to 1.1 mm and for lenses of larger diameters — to 2-3 mm. The thickness of pressings exceeds that of finished lenses by from 1 to 1.5 mm. We can, moreover, supply for prisms pressings corresponding in shape to finished prisms, plus a margin for processing.

These margins are as follows:

- on the hypotenuse — 2 - 4 mm
- on the cathetus — 1.5 - 2 mm
- on the sides — 0.5 - 1 mm

Blocks and slabs are supplied with the two opposite surfaces polished, so that they may be inspected for blurs, air seed and colour.

Each block is marked with the serial number of the melt.

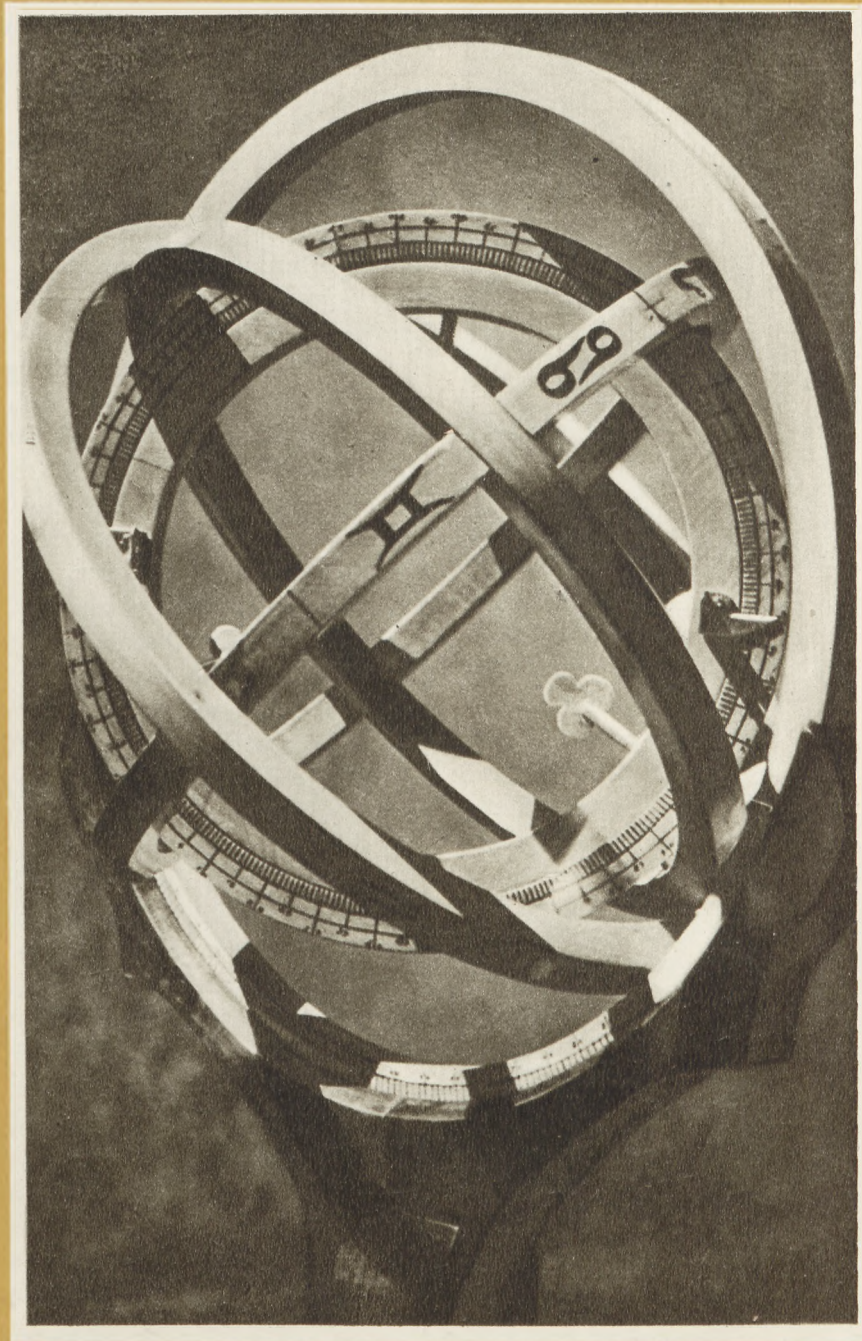
Exports of optical glass are dealt with by "METAL-EXPORT" Ltd., State Enterprise, Mokotowska 49, Warsaw. Telegrams: Metalex — Warsaw.



# ANCIENT ASTRONOMICAL INSTRUMENTS IN POLAND

The oldest university in Poland, founded in Cracow in 1364, became, in the 15th century, famous throughout the world for its achievements in astronomical

science. The most eminent astronomers were, at that time, either lecturing at Cracow University, or in constant touch with its professors. It is not surprising,



Polish scientists have, since the Second World War, succeeded, after years of careful study, in reproducing the complete set of instruments used by Copernicus, founder of modern astronomy, in carrying out his observations. These were declared, by the VI International Congress for the History of Science, (Amsterdam, 1950) to be the first successful and perfect scientific reproduction. Our illustration shows the astrolabe by means of which Copernicus made his revolutionary discovery. This astrolabe, representing the great circles of the heavens and earth, became established as the plastic symbol of the universe



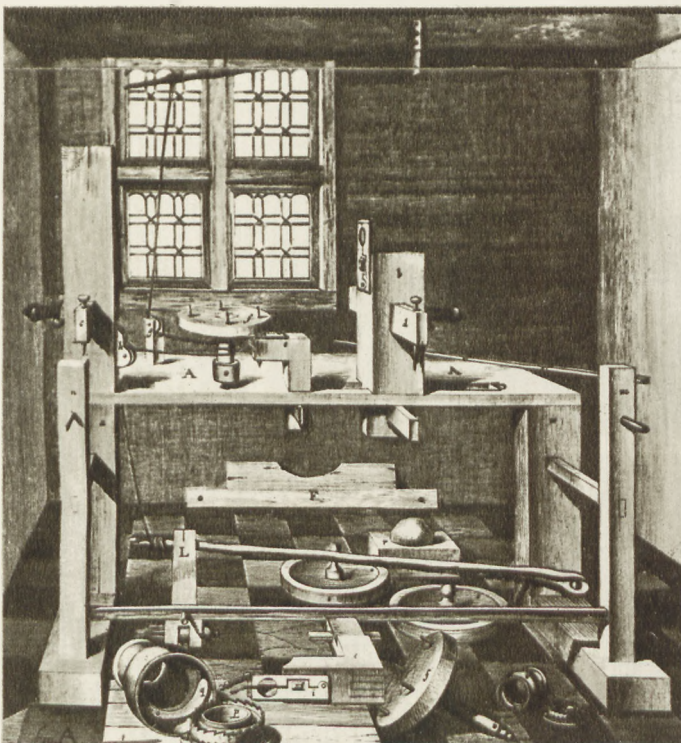


Jan Hevelius, Polish astronomer, (1611—1687) founded in Poland one of Europe's first optical glass grinding factories. It was there that the lenses for the first telescopes were made. Our illustration shows a reproduction of a portrait of Jan Hevelius now in the gallery of illustrious scientists in the University Library at Oxford.

therefore, that it was here that Nicholas Copernicus (1473—1543), born in Torun, where his father had moved from Cracow, pursued those studies which led to his becoming the prime founder of modern astronomy. Polish astronomy reached, as a result of the discoveries of Copernicus, the peak of its fame in this particular branch of science. Copernicus, finding himself, as it were, on the border-line between two great

eras, pursued his work in the half-light of antiquated conditions, making use of instruments known even to Erathosthenes, Hipparchus and Ptolemy. He bequeathed to posterity detailed descriptions of these instruments which he had, in fact, with but minor technical improvements, himself constructed on the basis of classical sources and traditions handed down by the ancients. It is obvious that there could be no question of any optical lenses, and observations were restricted to measuring the relative angular positions of celestial bodies as seen with the naked eye through the louvres of the corresponding instruments. The astrolabe — or armillary sphere which, on account of its picturesque form representing the great circles of the heavens and earth, became established as the graphic symbol of the universe, was one of the principal instruments used by the ancients as well as by Copernicus. It was this instrument, by means of which Copernicus was carrying out observations of the changing position of planets in relation to the ecliptic, or the apparent path of the sun, that led to his discovery which was to prove the dawn of a new era in astronomy. Another instrument to which he had recourse was Ptolemy's triquetrum by means of which the height of celestial bodies was determined and which was the sole instrument to be repeatedly reconstructed in the 19th century, no trace having survived of any of the original types of this quaint apparatus. It was, however, always being reconstructed incorrectly, because the replicas were invariably based, not on the authentic description by Copernicus and the ancients, but on the popular and entirely erroneous 17th century attempts at reconstruction. Copernicus was using, in addition to these two instruments, a crude wooden quadrant to measure the height of the sun, as well as another instrument of which important original elements have survived to this day — a reflex sundial of his own design, still in the gallery of the castle at Olsztyn.

Two Polish scientists, Dr. Feliks Przyrkowski and Dr. Tadeusz Przyrkowski, succeeded in 1948, after years of careful study of the Copernicus texts and other sources, and on the basis of astronomical computations, in reproducing the complete set of instruments used by Copernicus. These instruments, so reconstructed,

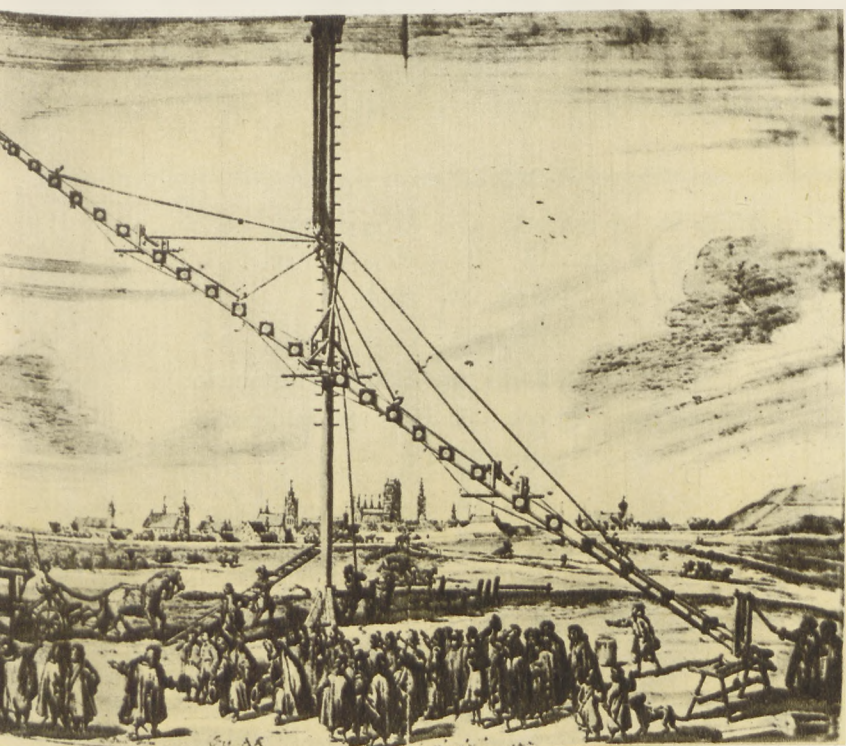


The first optical glass grinding factory in Poland, established in the early half of the 17th century.



were, in 1950, submitted at Amsterdam to the VI International Congress for the History of Science, where they were declared to be the first successful and perfect scientific reproduction. Details of them were published in the official periodical of the French Astronomical Society in Paris, in January, 1951. Duplicate models of the reconstructed instruments, made of the proper materials and to the proper scale, for use as exhibits in museums and observatories to demonstrate progress in celestial research, can be obtained from the Polish Society of Friends of Astronomy (Polskie Towarzystwo Miłośników Astronomii, Zarząd Główny), Św. Tomasza 30, Kraków, Poland.

Galilei invented, in 1609, the telescope which entirely revolutionised astronomical research. A paramount role was at that time being played in Poland by the astronomical research of Jan Hevelius (1611—1687), the



Jan Hevelius's large telescope, made in 1673. Hevelius's studies on the topography of the moon still, though three centuries have since elapsed, retain their scientific value

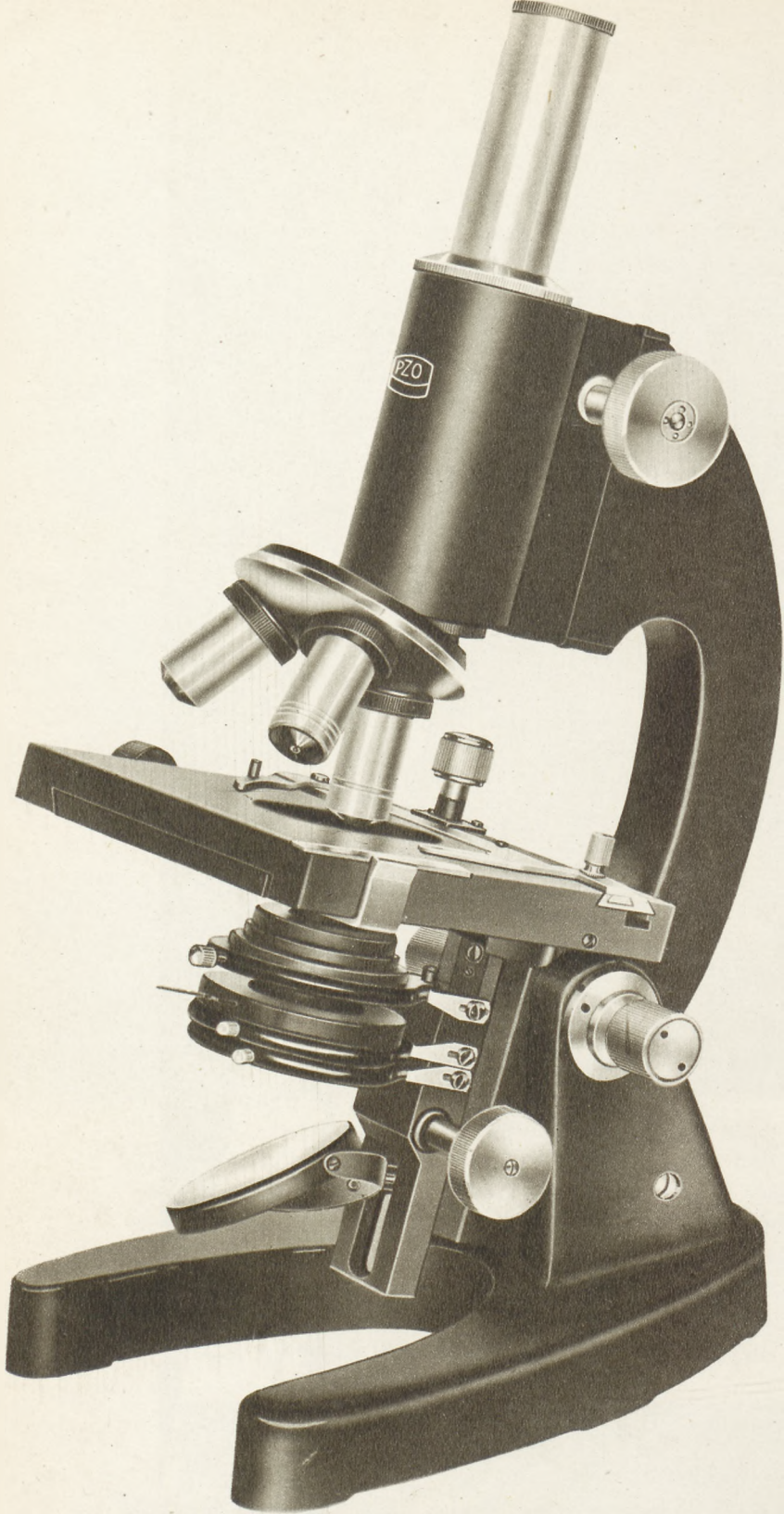
royal court astronomer and one of the world's most famous astronomers. His portrait, reproduced herewith, is preserved in the gallery of illustrious scientists in the University Library at Oxford. Hevelius it was who, in the 1630's, founded an optical glass grinding factory — the first in Poland and one of the first in Europe — and perfected its equipment throughout the many years of his scientific and technical research work. It was there that the first lenses for the famous Hevelius telescopes — the first and largest in the world — were produced. These telescopes, which Hevelius used in pursuing certain of his studies, as for instance on the topography of the moon, still retain, though three centuries have elapsed, not merely a historical, but also a strictly scientific value.

## POLISH OPTICAL INSTRUMENTS

The Polish optical instruments industry was intended, during the inter-war period, to serve the requirements of the home market only. The present output of this industry is, however, sufficiently large to deal with foreign orders also.

Countries to which Poland is now supplying instruments include Egypt, Argentina, China, Rumania, Finland and Australia.





Type M-300 Microscope for research and scientific work.  
Magnification: 30× -- 2000×

Below are given particulars of certain instruments now in current production:

#### Rangefinder for radial triangulation

Direct field measurement is the classical method of obtaining coordinate points necessary for the resolving of observations. It is, however, a lengthy process requiring a great deal of work. There is an alternative means of obtaining the necessary data — by evaluation of the views obtained by photogrammetric method.

In aerial photogrammetry, the views are taken with the optical axis of the camera in a more or less perpendicular position, that is to say, with the landscape in an approximately horizontal plane. It is possible in this way to measure horizontal angles directly on the negative and to use them ultimately for transposing the views obtained in the field by means of radial triangulation. Our radial rangefinder can, in addition to using radial triangulation for measuring horizontal angles and for transposition of radial points (tuning), be used as a comparator for determining polar coordinates.

#### Type M-100 Microscope

This microscope is designed for use in schools and by chemists. Standard optical outfit:

achromatic lens 10 : 1 Ap 0.24  
 " " 40 : 1 Ap 0.85  
 Huyghens' eyepiece, 5 times magnification  
 " " 10 " "  
 Magnification: 50 to 100 times.

#### Type M-200 Microscope

Intended for diagnostic and laboratory purposes. Standard optical outfit:

achromatic lens 10 : 1 Ap 0.24  
 " " 60 : 1 Ap 0.85  
 " " 100 : 1 Ap 1.30 (oil immersion)  
 Huyghens' eyepiece, 5 times magnification  
 " " 10 " "  
 " " 15 " "  
 Magnification: 50 times to 1500 times.

#### Type M-300 Microscope

A type used for all kinds of research and scientific work. Standard optical outfit:

achromatic lens 10 : 1 Ap 0.24  
 " " 60 : 1 Ap 0.85  
 " " 100 : 1 Ap 1.30 (oil immersion)  
 Huyghens' eyepiece, 5 times magnification  
 " " 10 " "  
 " " 15 " "

Compensating eyepiece, 20 times magnification.  
 Magnification: 50 to 2000 times.

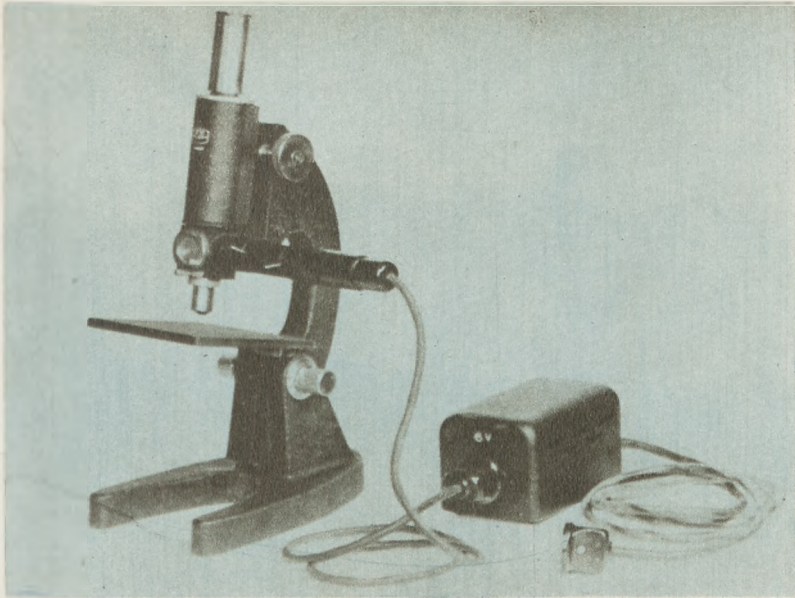
#### Type M-401 Binocular Microscope

Prolonged observation with one eye only causes fatigue. The binocular microscope has, therefore, been designed to minimise eyestrain. It can be used for laboratory, scientific and research work of all kinds.

Standard optical outfit:

achromatic lens 10 : 1 Ap 0.24  
 " " 20 : 1 Ap 0.40  
 " " 60 : 1 Ap 0.85  
 " " 100 : 1 Ap 1.50 (oil immersion)





The metallographic microscope — intended for use in the metallurgical industry and in all cases where observations have to be carried out in a reflected light. Magnification:  $50\times$  —  $600\times$

space and enabling prolonged work without causing eyestrain.

3. Considerable distance of the object viewed from the lens, enabling convenient handling of specimens and ensuring good illumination, even under adverse conditions.
4. Easy exchange of lenses and eyepieces, which make possible rapid change of the magnifying power.

Achromatic lenses, specially corrected to give a flat field of vision:

Own magnification	Focal length	Frontal distance
1 : 1	72 mm	120 mm
2 : 1	64 mm	90 mm
3 : 1	54 mm	65 mm
5 : 1	40 mm	43 mm
8 : 1	38.3 mm	35 mm
10 : 1	23.7 mm	20 mm

2 Huyghens' eyepieces, 5 times magnification

2 " " 10 " "

2 " " 15 " "

Magnification: 50 to 1500 times.

#### Trichinoscope

For testing meat for nematode worm (*Trichina spiralis*). Standard optical outfit:

achromatic lens 8 : 1 Ap 0.25

Huyghens' eyepiece, 5 times magnification

" " 10 " "

Magnification: 40 to 80 times.

#### Stereoscopic Microscopes

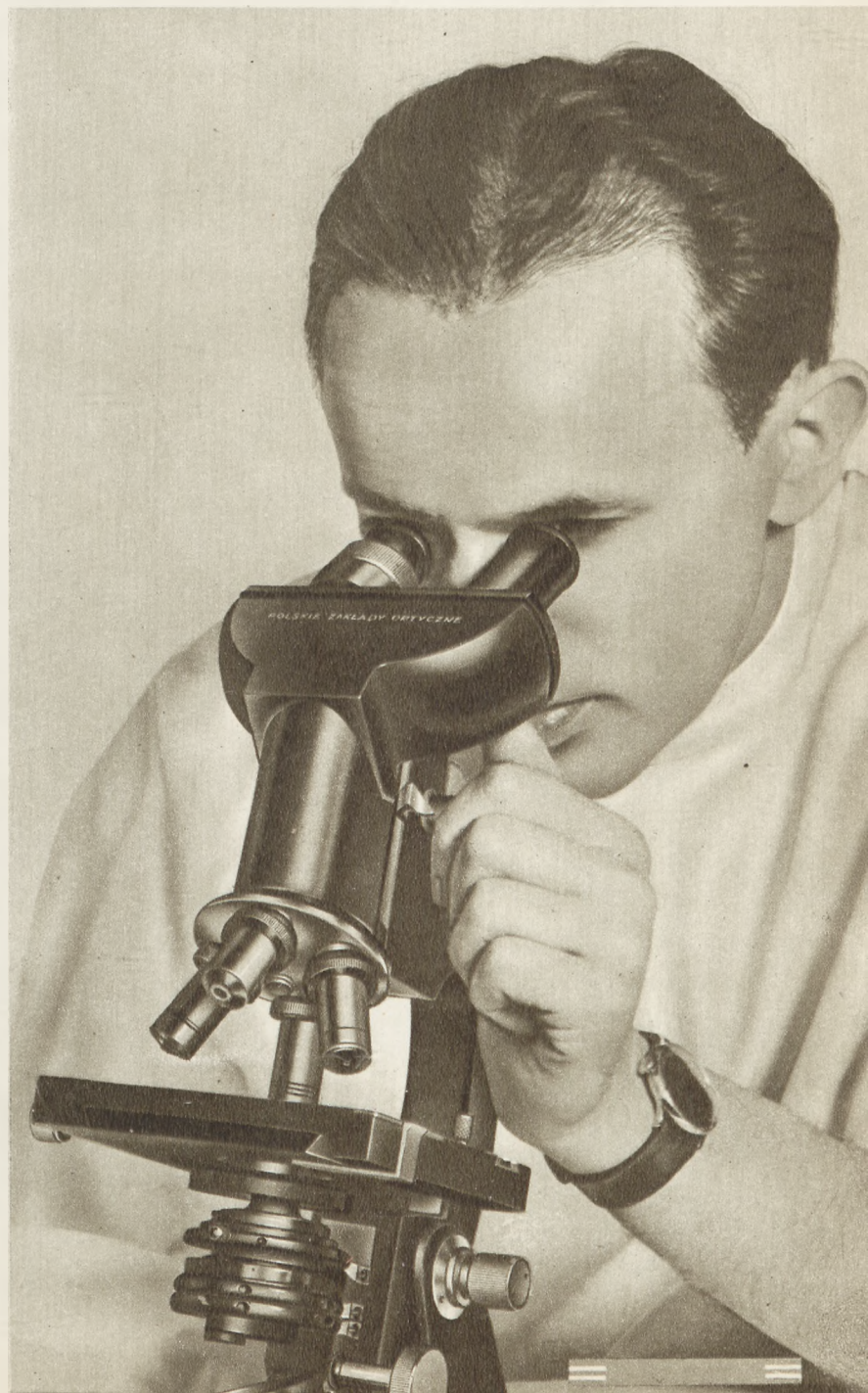
Certain branches of science such as botany, zoology, anatomy, embryology, together with engineering purposes in the precision instruments, metallurgical and food processing industries, require an instrument which, while giving a small magnification, makes easier and more convenient observation possible.

Stereoscopic microscopes, having the following advantages, are supplied for these purposes:

1. Direct image, considerably facilitating work on specimens.
2. Binocular observation giving the impression of



Type M-400 Binocular Microscope. Prolonged observation with one eye causes fatigue. The binocular microscope has, therefore, been designed to minimise eyestrain.







The Polish optical glass industry supplies watchmakers', achromatic, aplanatic, ortoplanatic and textile as well as ordinary lenses (with handles or on tripod)

Our microscopes are, in order to obtain a large and flat field of vision, provided with stereoscopic eyepieces having a 12.5 and 17 times magnification.

Type Mst-110 stereoscopic microscope is used for observations in reflected light. It can be placed direct on the object viewed.

Type Mst-120 is used for observations in transmitted and reflected light of such objects as can be placed on the stage. This microscope is of a type most commonly used for work of all kinds.

#### Type Met-2 Metallographic Microscope

A microscope used in the metallurgical industry and in all cases where observations are made in reflected and non-transmitted light.

Standard optical outfit:

achromatic lens 10 : 1 Ap 0.24

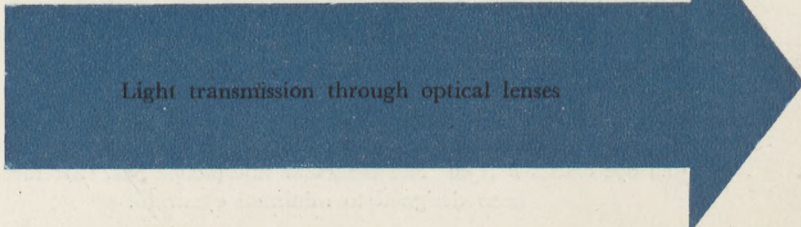
” ” 40 : 1 Ap 0.85

Huyghens' eyepiece, 5 times magnification

” ” 10 ” ”

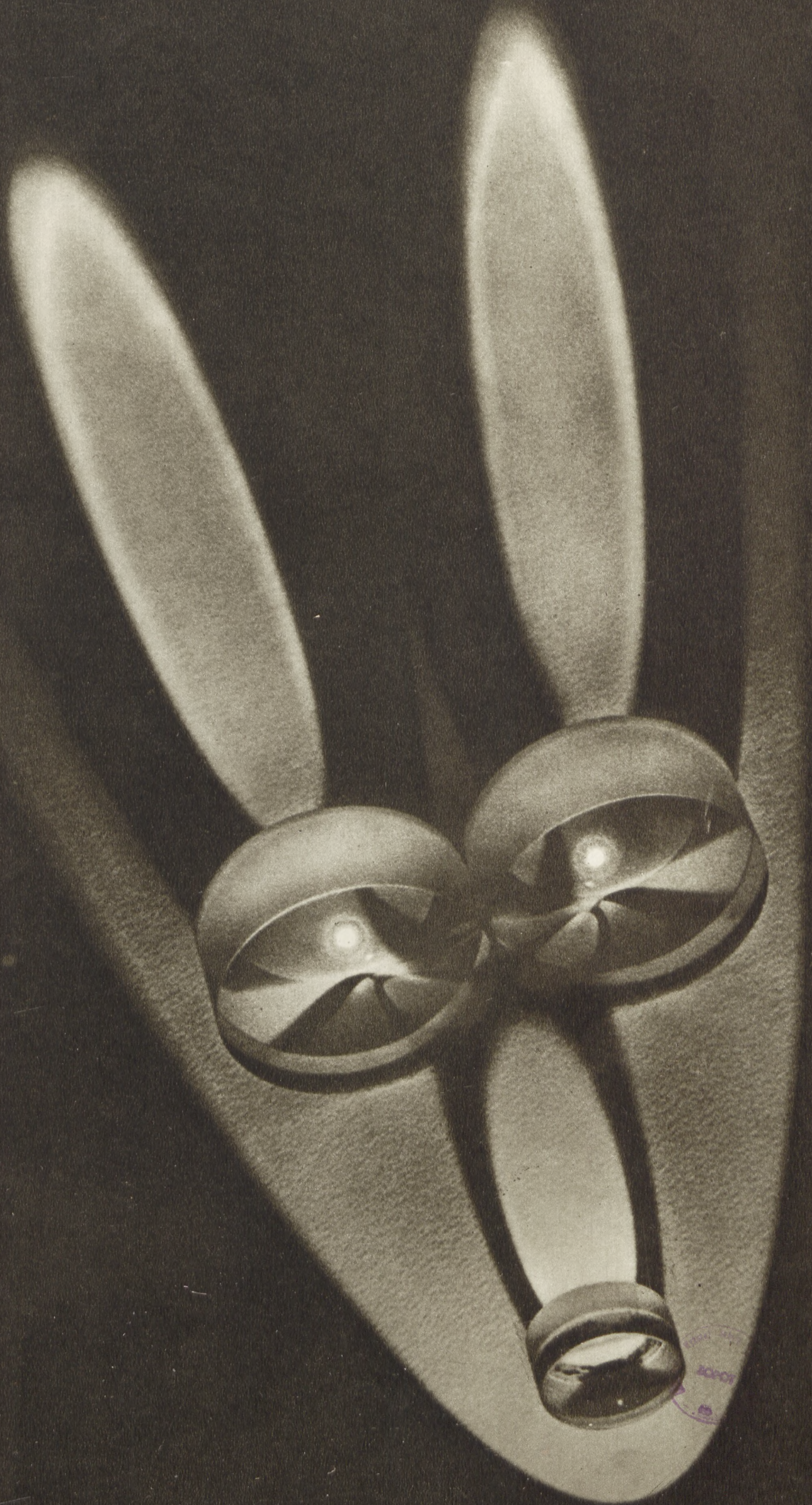
” ” 15 ” ”

The lenses are corrected for work without cover glass. Magnification: 50 to 600 times.

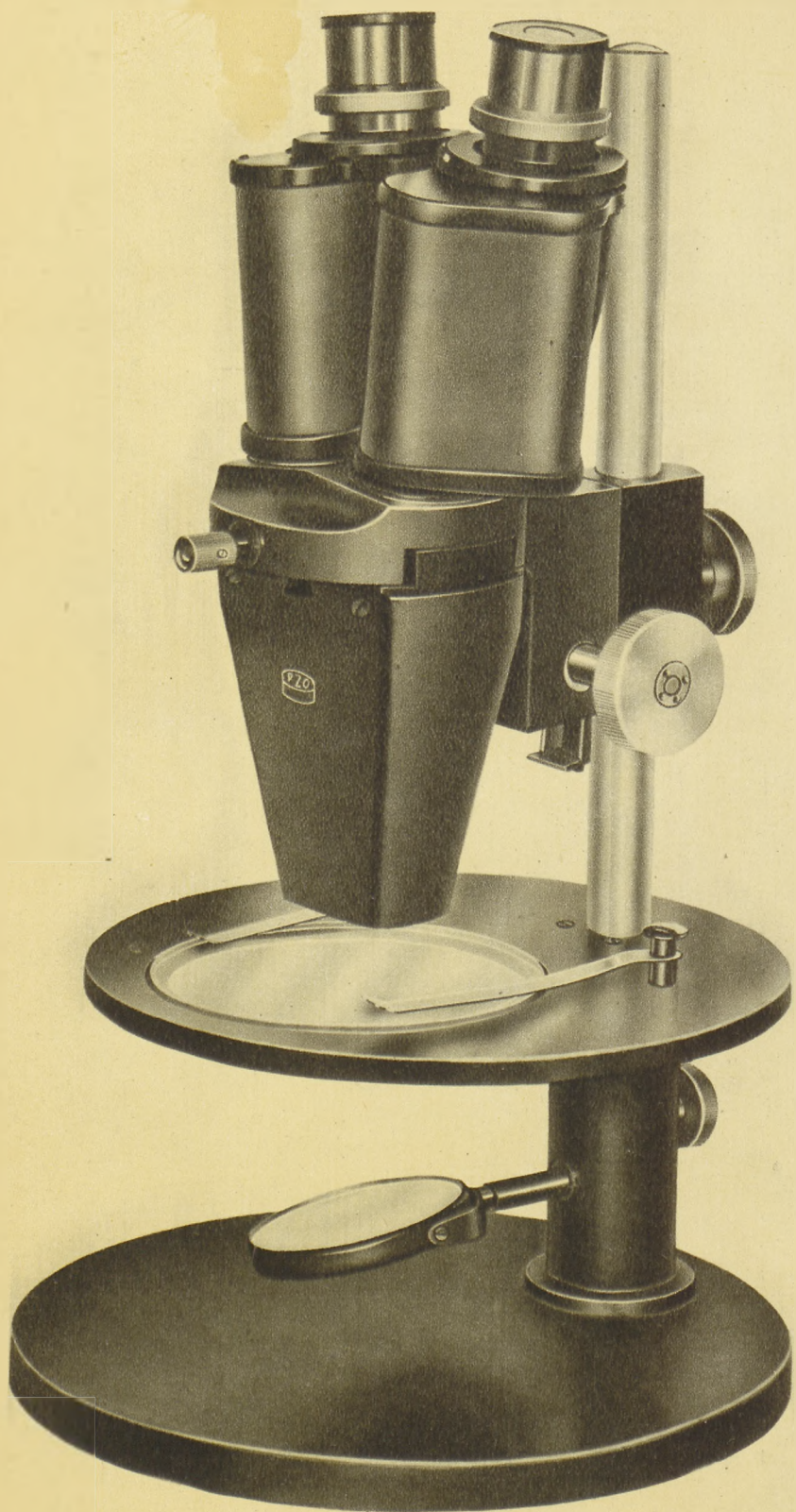


Light transmission through optical lenses









Type Mst-120 Stereoscopic Microscope. Binocular observation gives the impression of space, facilitating work on specimens



### Projection Microscope

The projection microscope is used in the textile industry as a lanameter, in the food-processing industry as a trichinoscope, and in schools for joint observation and convenient demonstration of enlargements at lectures.

### Microscope lamp

Used for microphotography, microprojection, microscope work and dark field observation. A 220 V/6V transformer is built into the base.

### Magnifying lenses

We supply the following magnifying lenses:

Folding lenses for 8, 12, and 8, 12 and 20 times magnification.

Watchmaker's lenses, for 3 and 4 times magnification.

Tripod lenses for 6 times magnification.

Lenses with handles, 60 mm dia. for 3 times magnification.

Lenses with handles, 30 mm dia. for 5 times magnification.

Achromatic lenses for 6, 8 and 12 times magnification.

Aplanatic lenses for 6, 8 and 12 times magnification.

Orthoplanatic lenses for 6, 8, 12 and 20 times magnification.

Textile lenses (folding) for 8 times magnification.

### Two-prism optical squares

Used for plotting perpendicular directions and for fixing the position of the observer in a straight line.

Determines angles of 90° and 180°, within a tolerance of 1.5°.

The export of optical instruments is in the hands of "METALEXFORT" Ltd., Mokotowska 49, Warsaw. Telegrams: Metalex-Warsaw.



## ZINC COMPOUNDS AS AN EXPORT COMMODITY

Poland is one of the world's major zinc producers, occupying a prominent position among the leading suppliers of this raw material. Zinc occurs as an ore in Upper Silesia. Poland, owing to the closeness

of coal mines and to convenient location of processing plants, has favourable natural conditions for the development of the production of zinc and its compounds.



# ZINC OXIDE

EXPORTED BY

»CIECH«

JASNA 10, WARSAW

TELEGRAMS: "CIECH" WARSAW  
TELEPHONES: 74780 TO 74787





Zinc white, or zinc oxide ( $ZnO$ ) is the most important compound of zinc and is widely used. It is obtained by the oxidation of metallic zinc vapours in rotary furnaces. It is a fine white powder with a slight bluish tinge and is insoluble in water and oils. It has good coating faculties as a pigment, retaining a permanent colour. Intensity of colour, coating faculty and resistance to light correspond to effective standards.

The following grades of zinc white, known throughout the world, have been fixed in Poland, according to quality of raw material used and production method:

	Red Seal	Green Seal	White Seal
ZnO minimum	99.0 %	99.20%	99.40%
PbO maximum	0.40%	0.25%	0.15%
CdO „	0.07%	0.05%	0.04%
oil number	14—20	16—21	16—21

Packing: Zinc white is, considering its relatively high value and the fact that it may, in transit, be subject to repeated handling, supplied in strong, new paper-lined wooden barrels holding 50 or 100 kg net. This method of packing has also been adopted to facilitate distribution of the contents by customers. The empty weight of the barrels, each of which is strengthened by several hoops, is in excess of 10% of the net weight. The barrels are, for convenience in handling during transport, marked in indelible paint to indicate the contents, quality, gross and net weight, as well as with such distinctive marks as may be required by the customer, with the "CIECH" symbol and with an inscription to indicate the Polish origin of the goods. Neutral packing can be adopted, if specially required by customers. Certain of our customers who are not particular about the goods being packed in wooden barrels, prefer to have zinc white packed in 50 kg net 4-ply or 5-ply bituminous lined paper bags. The price depends on the method of packing.

Zinc white of Polish manufacture is known throughout the world, and meets with the full satisfaction of our customers, so much so, that no complaints have ever been received by us, either in respect of quality or methods of packing. The high quality of zinc white is due to careful selection of the raw material, impeccable processing, technical supervision and rigorous control over production, together with quality control of each individual batch of zinc white leaving our works.

General development of chemical production in Poland under the provisions of the Six-Year Plan will ensure an increase in the production and export of zinc white.

### Zinc chloride ( $ZnCl_2$ )

This is the next item on the list of zinc compounds exported by "CIECH". It is obtained by treating zinc or zinc oxide with hydrochloric acid. Zinc chloride is widely used in industries. Its great convenience in use must be particularly stressed, this crystalline white powder being readily soluble in water (1:0.33). It replaces, in many instances, concentrated sulphuric acid in its action upon organic substances. The range of application is extremely wide; a few of its uses include: for wood preservation (sleepers), preservation of anatomical specimens, galvanising, copper-plating, tin-plating and soldering, in medical treatment and as a substitute for sulphuric acid.

#### Export grades: (Mean analysis)

	Grade 2	Grade 1
Zn . . . . .	48.51%	49.58%
Cl . . . . .	49.63%	50.10%
Ca . . . . .	0.15%	traces
SO <sub>4</sub> . . . . .	1.64%	0.012%
Mn, Pb, Fe . . . . .	traces	traces

Packing: in sheet steel drums, 150 kg net — 156 kg gross, or 80 kg net — 84 kg gross.

### Zinc Sulphate ( $ZnSO_4 \cdot 7H_2O$ )

The production of this chemical compound is contingent alternatively on zinc, on metallic zinc waste, or on zinc sulphides (zinc blende). Zinc sulphate is prepared by dissolving zinc in sulphuric acid or, in the case of zinc blende, by roasting in suitable conditions, leaching and crystallisation. It is a poisonous, colourless salt with orthorhombic crystals. It is mainly used for the manufacture of zinc paints, as a wood and leather preservative, as an insecticide and as an antiseptic in surgical treatment. Metallic zinc can also be easily obtained from zinc sulphate — by electrolytic method (one of the methods of obtaining zinc from zinc ore).

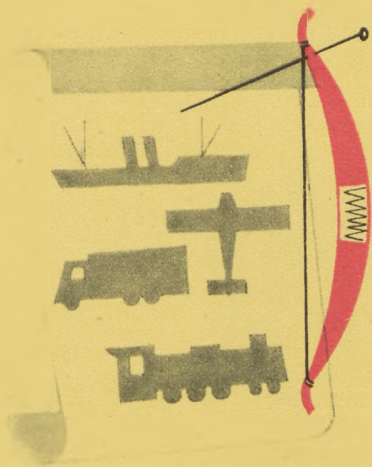
#### Export grades: (mean analysis)

ZnSO <sub>4</sub> · 7H <sub>2</sub> O . . . . .	98.5 — 99%
Cl . . . . .	0.1 — 0.15%
Fe . . . . .	traces
sp. gr. . . . .	1.95 — 2.00

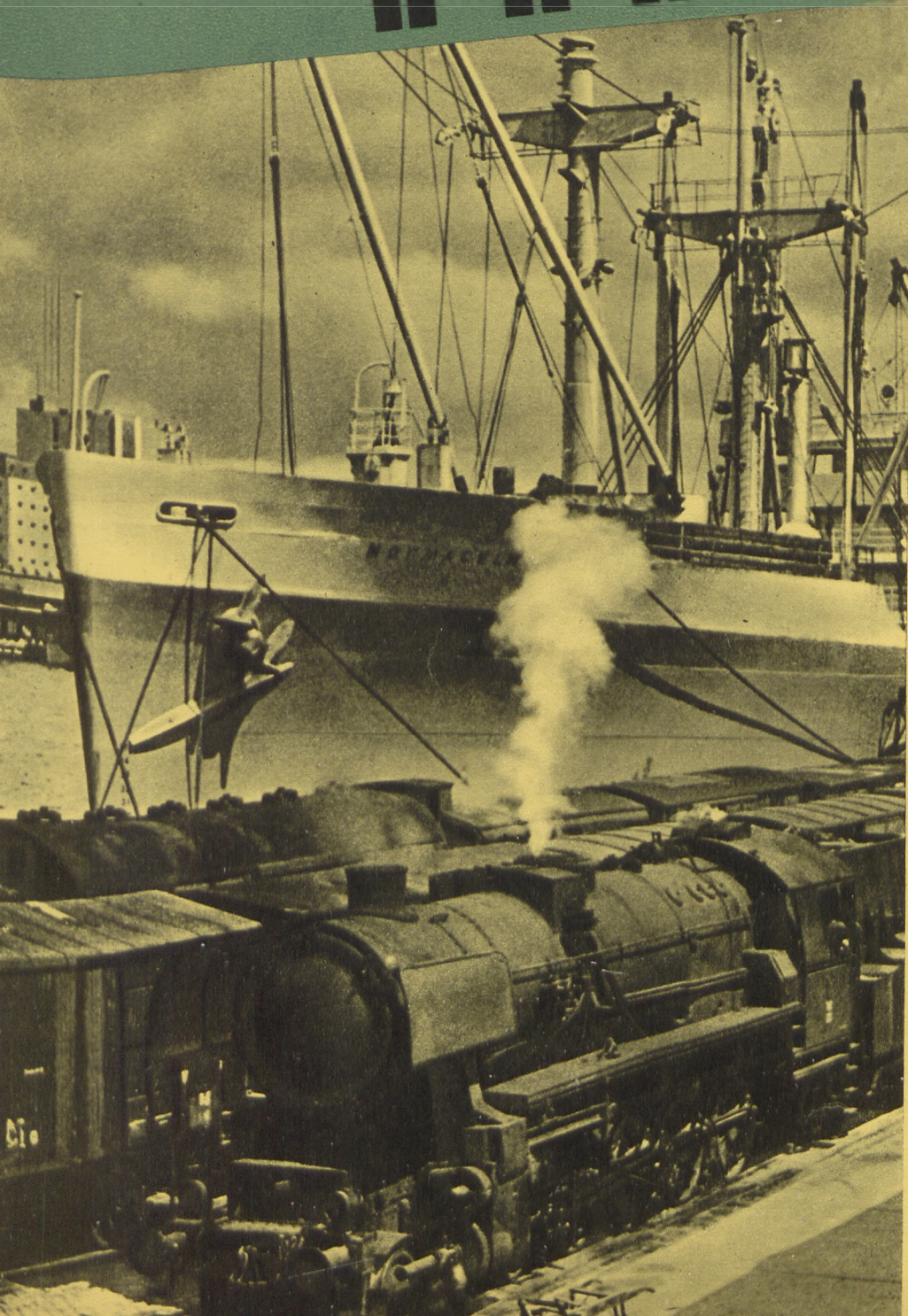
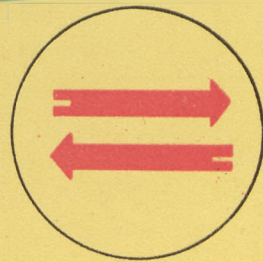
Packing: in paper-lined wooden barrels of 136 kg gross and 120 kg net.

The export of the above chemical compounds produced on a base of metallic zinc or zinc ore is in the hands of "CIECH" — General Import and Export Agency for Chemicals, Jasna 10, Warsaw.





# HARTWIG



INTERNATIONAL FORWARDING AGENTS

## C. HARTWIG

ESTABLISHED 1858

HEAD OFFICE: WARSAW, HIBNERA 3

Branches in all the more important cities in Poland. Sole forwarding service for Poland's foreign trade. Official forwarding agents to the Poznań International Fair and to other Polish Fairs abroad • International transport service by land, sea and air • Port services Transit traffic • Groupage consignments • Customs clearance • Insurance

CORRESPONDENTS IN ALL COUNTRIES



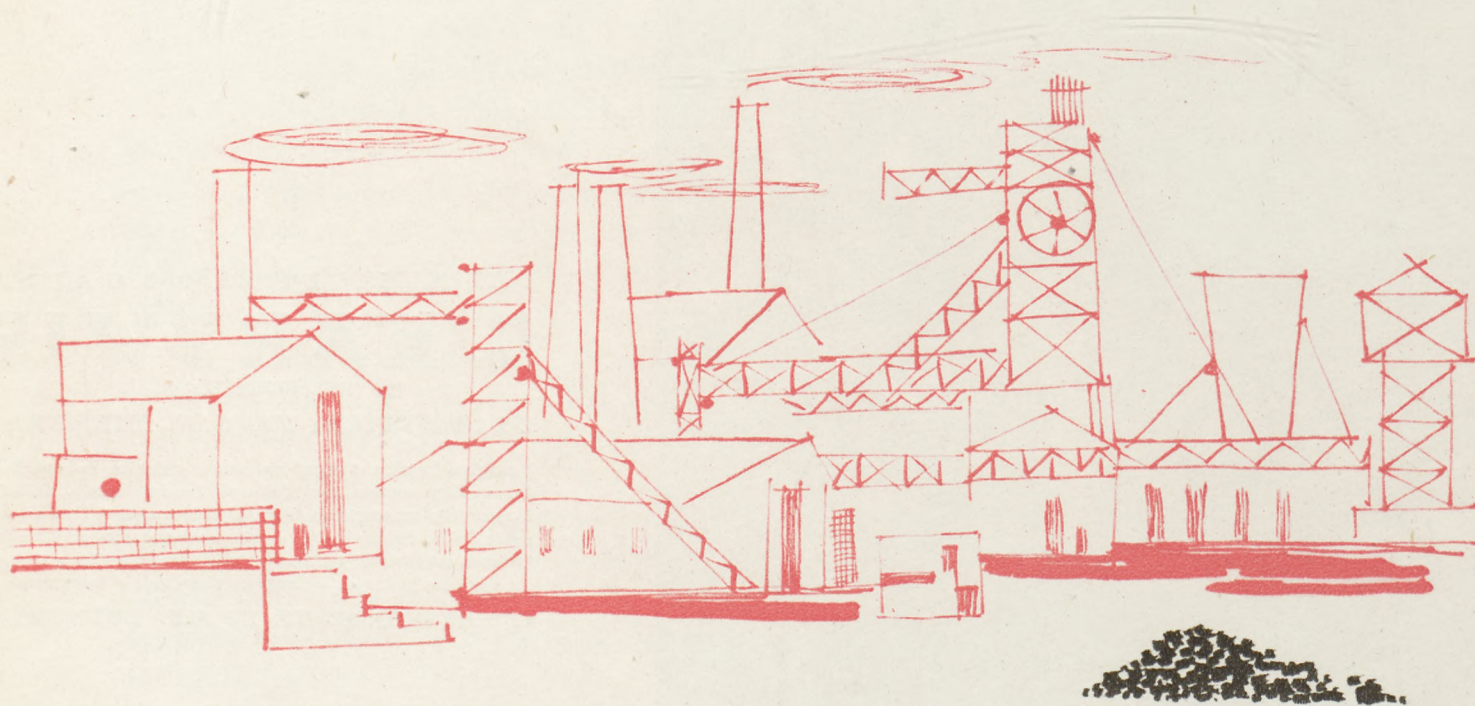
CENTRALA ZBYTU WĘGLA  
**CENTRAL COAL SALES BUREAU**  
NATIONAL ENTERPRISE  
(INDEPENDENT LIABILITY)

KOŚCIUSZKI 30, KATOWICE  
Telegrams: WĘGLOKOKS-KATOWICE • Phones: 36941 to 36945  
Bankers: NARODOWY BANK POLSKI, KATOWICE BRANCH

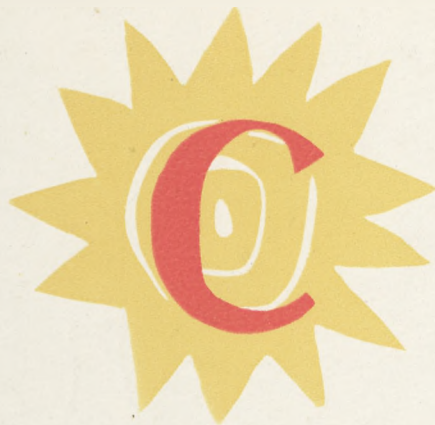
WARSAW OFFICE:  
ORDYNACKA 11, WARSAW  
Telegrams: WĘGLOKOKS-WARSAW • Phones: 85289 and 85889

**EXPORTS.** TO NUMEROUS EUROPEAN AND OVERSEAS COUNTRIES:  
coal and coke, for industrial, transport and domestic fuel purposes; bunker  
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screened by modern equipment. Grain size to suit particular requirements. Favourable terms.

УГОЛЬ CARBONE KOHLE







WĘGIEL

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## S H I P P I N G O F F I C E S

■ B A T O R E G O 26, G D A Ń S K - W R Z E S Z C Z  
Telegrams: Polcoal, Gdańsk — Telephones: 41141 to 41147

■ W A Ł Y B O L E S Ł A W A C H R O B R E G O 1, S Z C Z E C I N  
Telegrams: Polcoal, Szczecin — Telephone: 3295

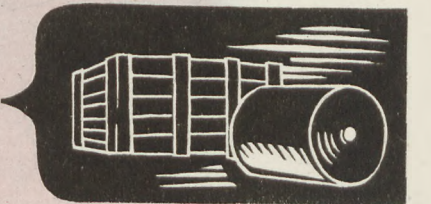
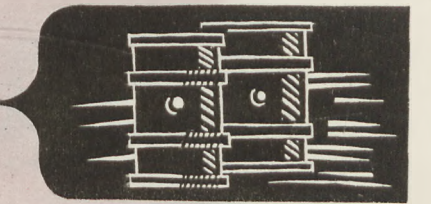
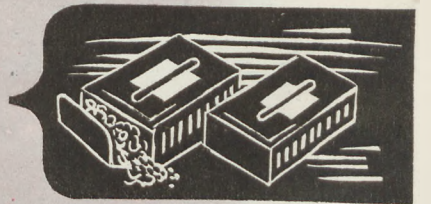
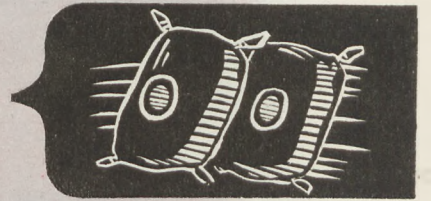
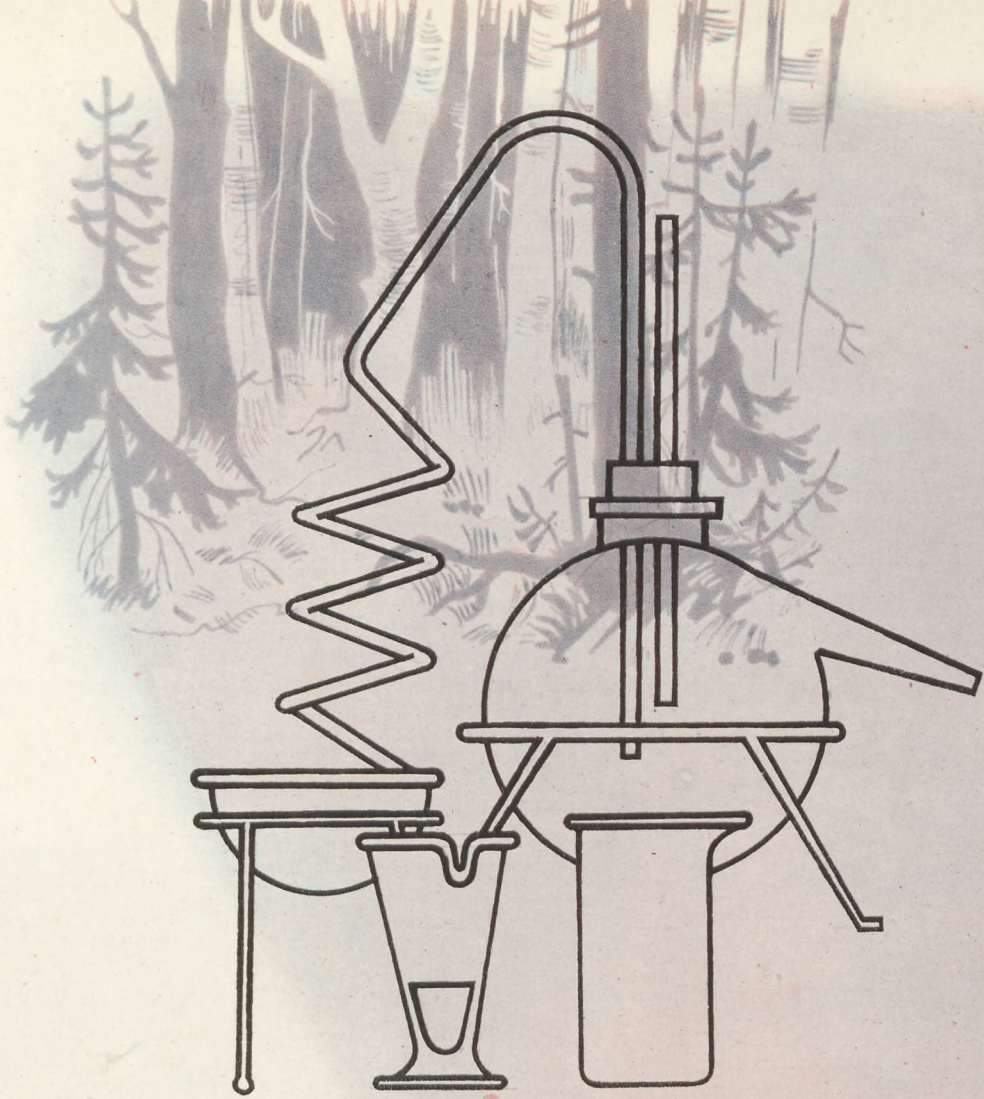
## R E P R E S E N T A T I V E S A B R O A D :

■ A U S T R I A : H E S S G A S S E 1, V I E N N A I  
Telegrams: Węglkoks, Wien — Telephone: U29514

■ F R A N C E : 23, R U E T A I T B O U T, P A R I S 9  
Telegrams: Węglkoks, Paris — Telephone: Paris TAI 4446

■ S W E D E N : R E G E R I N G S G A T A N 22, S T O C K H O L M  
Telegrams: Koldelegat Stockholm — Telephone: 216809





PRODUCTS OF DESTRUCTIVE  
DISTILLATION OF WOOD

E X P O R T E D B Y

*Ciech*

JASNA 10, WARSAW  
TELEGRAMS: "CIECH" WARSAW  
TELEPHONES: 74780 TO 74787



# PRODUCTS OF DESTRUCTIVE DISTILLATION OF WOOD

The immense value of wood as a raw material for the chemical industry can hardly be appreciated without reference to figures expressing the average yield of products obtained from the destructive distillation of wood.

Thus, one cubic metre of hardwood carbonised by distillation yields:

- 110 kg charcoal
- 32 „ 80% calcium acetate, or
- 20 „ acetic acid, computed at 100% strength
- 25 „ wood tar
- 7.5 „ methyl alcohol which, in its turn, produces:
  - 60% methanol (4.5 kg by weight)
  - 12% solvent (0.9 „ „ „ )
  - 20% alcohol for denaturing and fuel purposes (1.5 kg by weight)
  - 8% loss (0.6 kg by weight)

The more important products of destructive distillation of wood exported by "CIECH" comprise:

1. charcoal
2. activated carbon
3. acetic acid
4. hardwood tar
5. resinous products — colophony and turpentine.

## Charcoal

Charcoal is the residue from the destructive distillation in retorts of the following hardwoods: beech (50—90% of the total quantity produced), oak, birch, hornbeam and ash.

Mean analysis:

Grade	C-content	moisture	ash	size of chunks
I	80%	5% max.	2%	30—120 mm
II	75%	15% „	2.5%	20—100 mm

Raw material used for Grade I charcoal: 90% beech, the remainder consisting of oak, birch, and hornbeam.

Raw material used for Grade II charcoal: 50% beech, 25% birch, 25% hornbeam.

Uses: in the steel industry — for case-hardening; as a fuel in gas generators; for the production of activated carbon, gunpowder, carbon disulphide, as well as for domestic and other purposes.

Packing: charcoal is supplied loose, in railway vans; it can, however, to special order, be supplied in 25 kg net bituminous lined paper bags.

## Activated carbon

The base in activated carbon manufacture is charcoal. There are, nevertheless, other varieties also of activated carbon extracted from bone, coconut shell, sugar charcoal and so on; the present article, however, deals solely with activated carbon produced from charcoal.

The methods of producing activated carbon vary, according to the use for which it is intended:

- Carbon groups:
1. decolorisers,
  2. absorbents,
  3. contractives,
  4. condensers,
  5. for medical purposes.



The first production phase consists in preparing the basic semi-product, i. e. wood. The second phase covers the preparation of the proper grade of the product, according to the purpose for which the activated carbon is intended. Activated carbon is obtained by the impregnation of charcoal with zinc chloride, sulphuric and phosphoric acid. Other compounds, such as decolorising earths, are added as and if required. Activated carbon produced in Poland under the CARBOPOL trade mark and appropriately numbered is equal in quality to the brands produced by leading European and American manufacturers. By far the most important point in activated carbon manufacture is to ascertain for what purpose it is required and under what conditions it will be used. This information should be supplied by all customers who have not previously been using Polish CARBOPOL carbon.

The purposes for which activated carbon is in use are many and varied; to mention but a few, they include — refining and decolorisation of sugar, paraffin oil, crude rape-seed oil, inorganic and organic salts, fruit wines and syrups, waxes, lactic acid, glycerine, potato syrups, association of SO<sub>2</sub> and Cl<sub>2</sub>, manufacture of phosgene, filling of respirators in gas masks and, last but not least, for medical treatment.

Activated carbon is made only to order which is required to specify the trade mark and serial number, e. g. "Carbopol" 4, or the serial number of the sample accepted. The "CIECH" General Export and Import Agency for Chemicals has available a wide range of samples which it can submit, together with quotations, on request, while its experts, taking as their slogan — maximum effect from a minimum





Poland produces 20% more timber than in pre-war years, so that there is an ample supply of raw material for the destructive distillation of wood.

of material — are at all times ready to offer advice on the technique of using activated carbon.

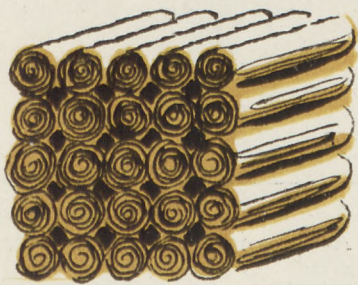
**Colophony (rosin) and Turpentine  
(oil of turpentine)**

Oleo-resins exude from incisions made in pine trees and drip into vessels placed beneath the incisions for

this purpose. It is a process similar to that employed in winning rubber. The resin so collected is put through a process of distillation, yielding:

approx. 10% oil of turpentine (balsamic resin)  
50% colophony  
40% pine tar and waste matter.





=

One cubic metre of hardwood carbonised by distillation yields:

- 110 kg charcoal
- 32 kg 80% calcium acetate
- 20 kg acetic acid, computed at 100% strength
- 25 kg wood tar
- 7.5 kg methyl alcohol



Oil of turpentine obtained from resin is superior in quality and is known as balsamic turpentine.

Another method of obtaining oil of turpentine and colophony is by extracting them from pine roots by means of benzene or petrol, or by distilling the divided root by steam.

#### Oil of turpentine

The following grades are obtained, according to method of winning:

1. balsamic oil of turpentine (by sapping)
2. common oil of turpentine (by extraction or destructive distillation of the roots).

Turpentine is a transparent fluid body, of the following mean analysis:

	Grade I	Grade II
1. specific gravity at 20°C	0.856—0.866	0.856—0.875
2. refraction factor . . .	1.465—1.475	1.465—1.480
3. initial boiling point . .	150°C—160°C	150°C—160°C
4. bromine number . . .	170 min.	155 min.
5. acidity . . . . .	0.1 max.	0.25 max.
6. residue after evaporation	0.5% max.	1.00% max.

Uses: as a solvent for fats and resins; in the manufacture of high-grade boot and floor polishes, paints and varnishes; for removing grease stains; in pharmaceuticals — as a base for such compounds as camphor, menthol, etc.

Supplied in railway tank-wagons, galvanised iron drums or carboys with ground stopper, packed in wicker baskets, with cowl.

#### Colophony

This is a brittle, transparent substance of conchoidal fractures and vitreous lustre. Its colour is contingent on the semi-product and the manufacturing process. There are, according to colour, four grades of colophony: AAA, WW, K, N, of which grade AAA is the best.

Uses: in the soap and paper industries, in electro-technics, in the manufacture of linoleum and varnishes.

Supplied in: iron drums or drums made of cellulose pulp, containing from 80 to 200 kg.

#### Methyl Vinegar

Methyl vinegar is obtained from the distillation of coniferous wood and is the semi-product for:

- a) crude methyl alcohol and
- b) crude acetic acid.

Methyl alcohol and 80% or 98/100% acetic acid is obtained from the appropriate distillation of these raw materials.

Calcium acetate which is, in turn, processed into acetic acid or used as a base for the production of acetone and ketone oils, can be obtained as a by-product.

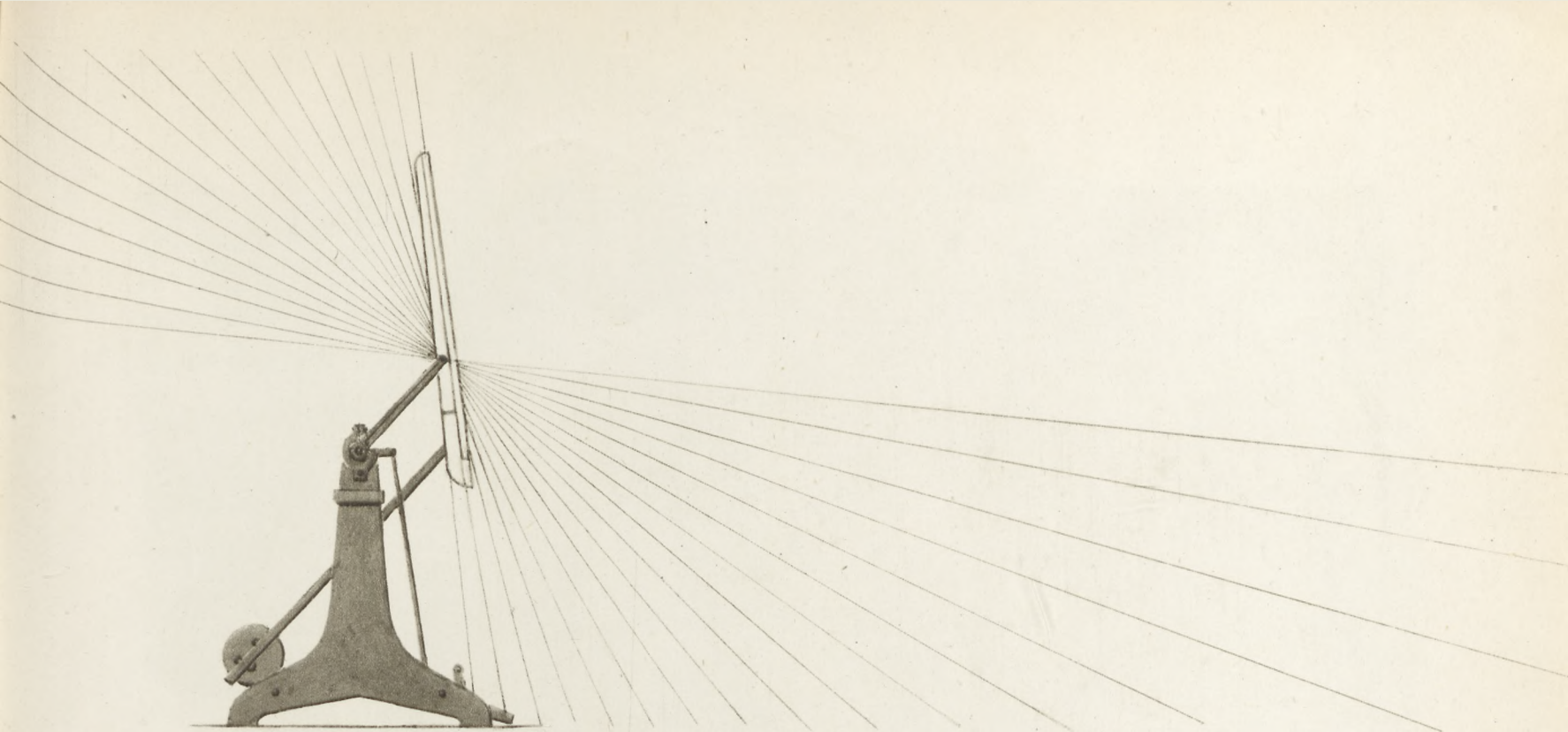
#### Hardwood tar

This is a product which does not, under normal circumstances, yield to distillation during the chemical processing of wood, but issues from the bottom part of the retort. Wood tar may either be subjected to further processing, or used in the form of an end product as a wood preservative (for submerged piles, boats, sleepers), as a preservative for ropes and twine, as a road carpeting and for fuel purposes.

All products referred to above are made by a skilled and widely experienced staff, and under the supervision of expert chemists. The consistent and growing demand for our products in world markets rests on high quality.

Exports are in the hands of "CLECH", General Export and Import Agency for Chemicals Jasna 10, Warsaw.





## TABLES FOR DRAUGHTSMEN

The new simplified design of the Polish type Ztg 40 table for draughtsmen makes it possible easily to change the poise of the board by means of two pairs of friction jaw brakes, one of which controls the vertical and the other the horizontal balance.

The brake jaws, actuated by a broad foot-operated lever, enable the board to be silently adjusted in any position desired.

Only slight pressure on the pedal is needed to operate the table which, once locked, is absolutely firmly fixed in its position.

The ease with which the board can be canted improves working conditions, the draughtsman being able to adjust the board so that he can sit comfortably at his work.

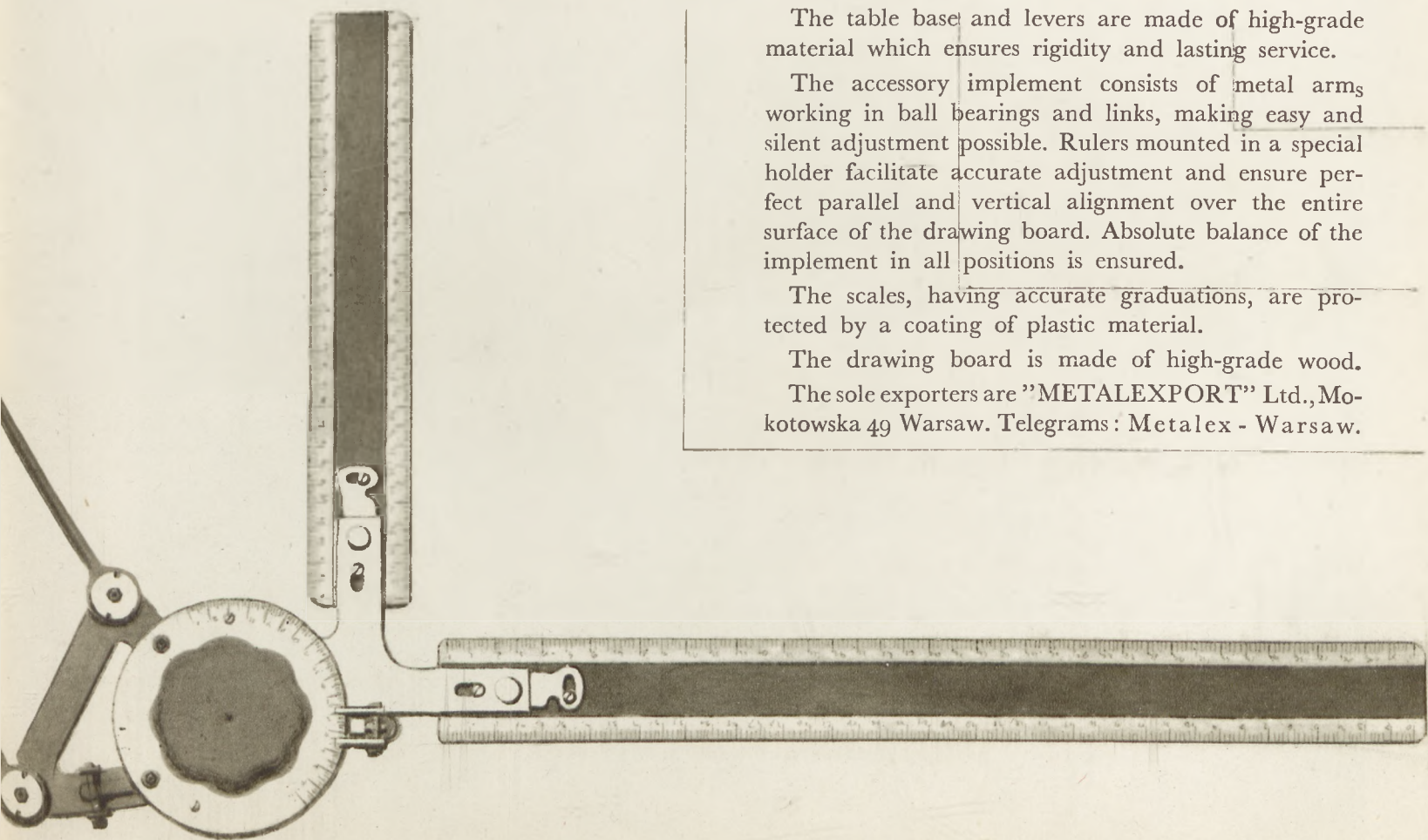
The table base and levers are made of high-grade material which ensures rigidity and lasting service.

The accessory implement consists of metal arms working in ball bearings and links, making easy and silent adjustment possible. Rulers mounted in a special holder facilitate accurate adjustment and ensure perfect parallel and vertical alignment over the entire surface of the drawing board. Absolute balance of the implement in all positions is ensured.

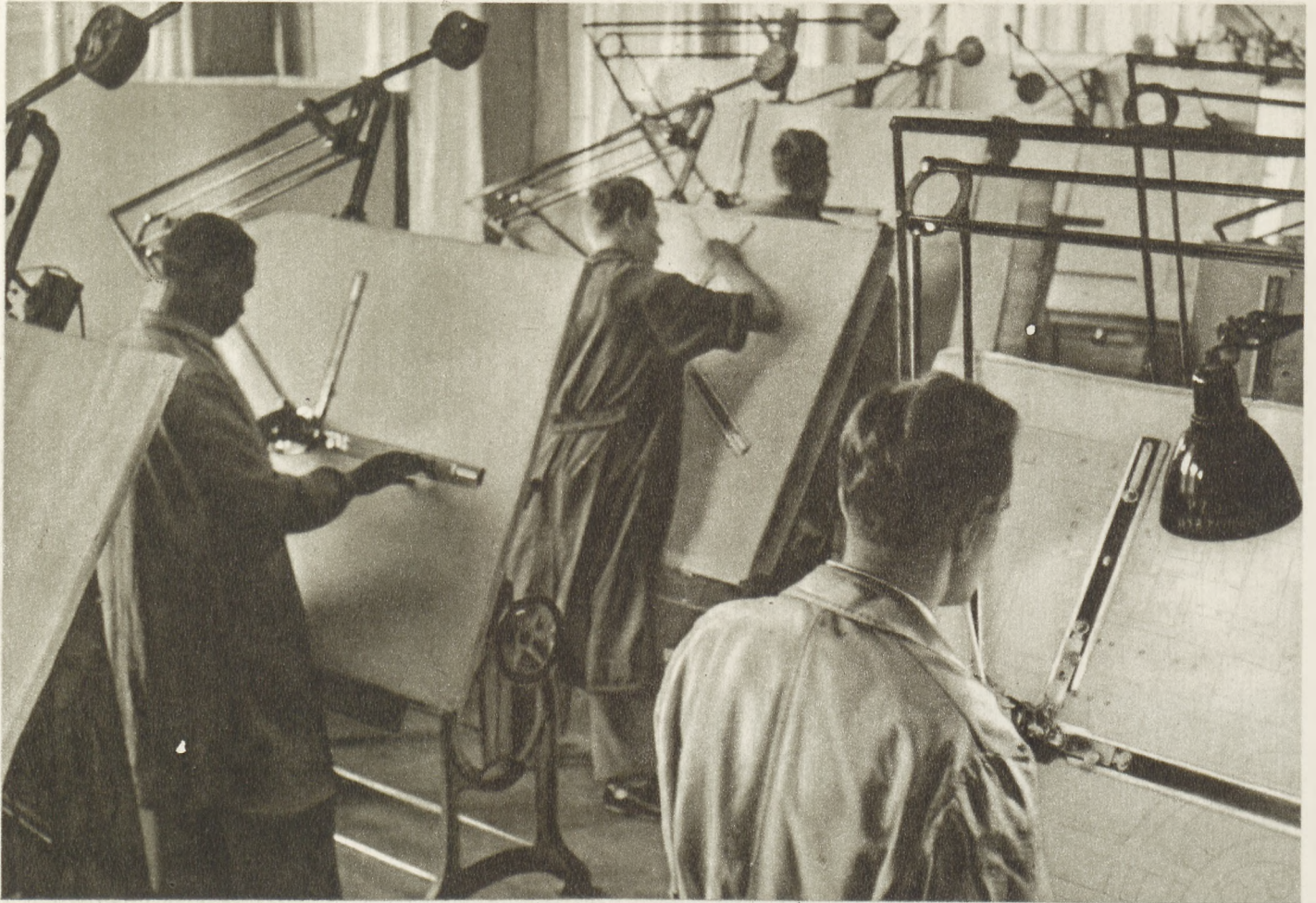
The scales, having accurate graduations, are protected by a coating of plastic material.

The drawing board is made of high-grade wood.

The sole exporters are "METAEXPORT" Ltd., Mokotowska 49 Warsaw. Telegrams: Metalex - Warsaw.

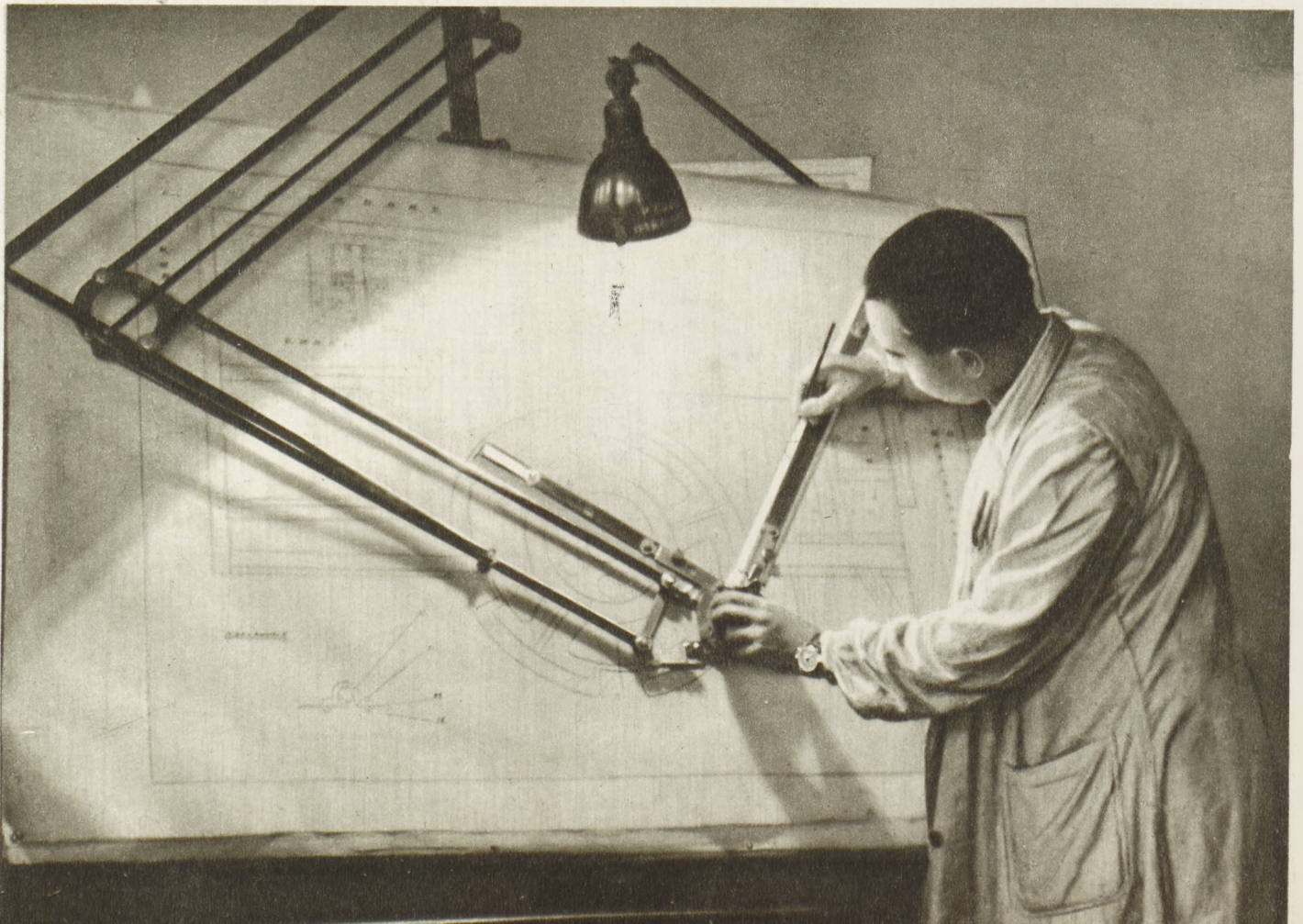




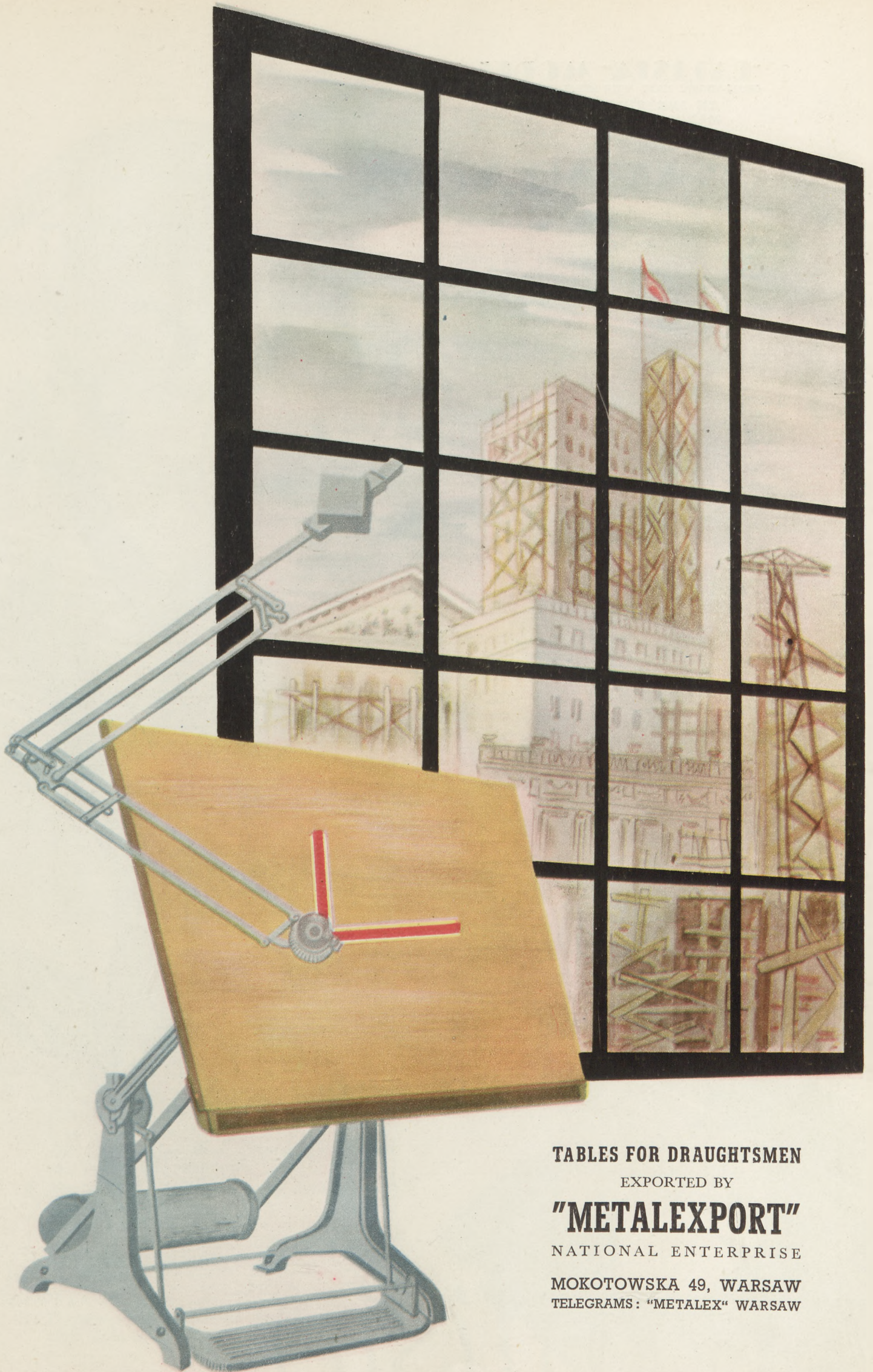


The new simplified design of Polish tables for draughtsmen makes it possible easily to change the poise of the board, thus facilitating the draughtsman's work

The table base and levers are made of high-grade material and the board of select wood







TABLES FOR DRAUGHTSMEN

EXPORTED BY

**"METAEXPORT"**

NATIONAL ENTERPRISE

MOKOTOWSKA 49, WARSAW

TELEGRAMS: "METALEX" WARSAW



## "CALISIA" MODEL 35

CROSS-STRUNG PIANO WITH METAL FRAME, 7 ¼ OCTAVES

AN INSTRUMENT OF POLISH  
MANUFACTURE DISPLAYING HIGH  
TECHNICAL SKILL. DIGNIFIED  
MODERN APPEARANCE.

» **VARIMEX** «

POLISH COMPANY FOR FOREIGN TRADE

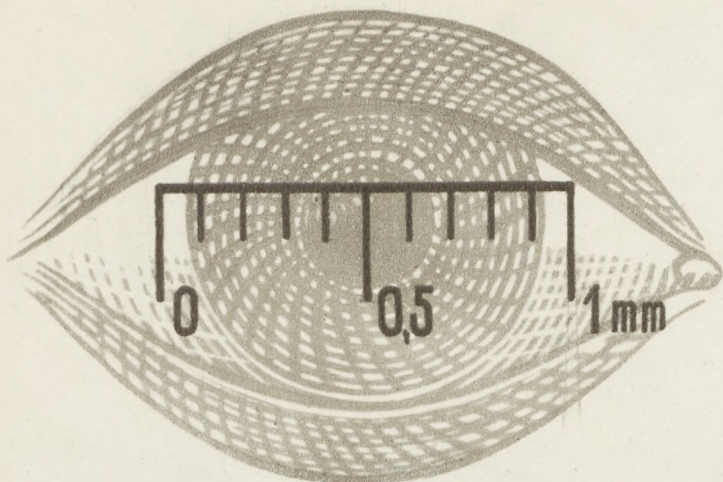
WILCZA 50/52, WARSAW

Telephone: 89880 • Telegrams: VARIMEX-Warsaw



# Calisia





## POLISH GAUGES

The production of gauges is one of the branches of the Polish precision instruments industry to have made rapid progress, as a result of new working methods, standardisation, accuracy and the fact that the highest grade materials only are used. They are now, both for precision and lasting qualities, in the leading class of gauges.

The Polish industry is in a position to execute, in addition to standard type gauges, orders to customers' specification for any non-standard type or special gauge.

Points worth bearing in mind in connection with standard type gauges are:

1. Polish gauges are made to metric standard.
2. The gauges can be supplied for male or female work.
3. The use of gauges considerably reduces production costs, as it enables the maintenance of proper tolerances.
4. The use of gauges reduces, moreover, the cost of testing and inspection.
5. They ensure interchangeability of parts.

The following is a list of some of our standardised type gauges, holders and plugs:

### a) Limit gauges

1. Single-ended, two-limit, folding gap gauges: sizes from 1 to 12 mm.  
The jaws are made of alloy steel and hardened.
2. Single-ended, two-limit, one-piece gap gauges: sizes from 12 to 50 mm.  
The jaws are made of carbon steel, case-hardened.
3. Smooth, double-ended, adjustable snap gauges and check gauges: sizes from 0.5 to 330 mm.  
Body made of cast iron, plates and adjustment spindles of alloy tool steel.
4. Single-ended differential gap gauges, with exchangeable jaws: sizes from 50 to 315 mm.  
Body made of cast iron, inserts of alloy tool steel, polished and hardened.

### b) Flat gauges

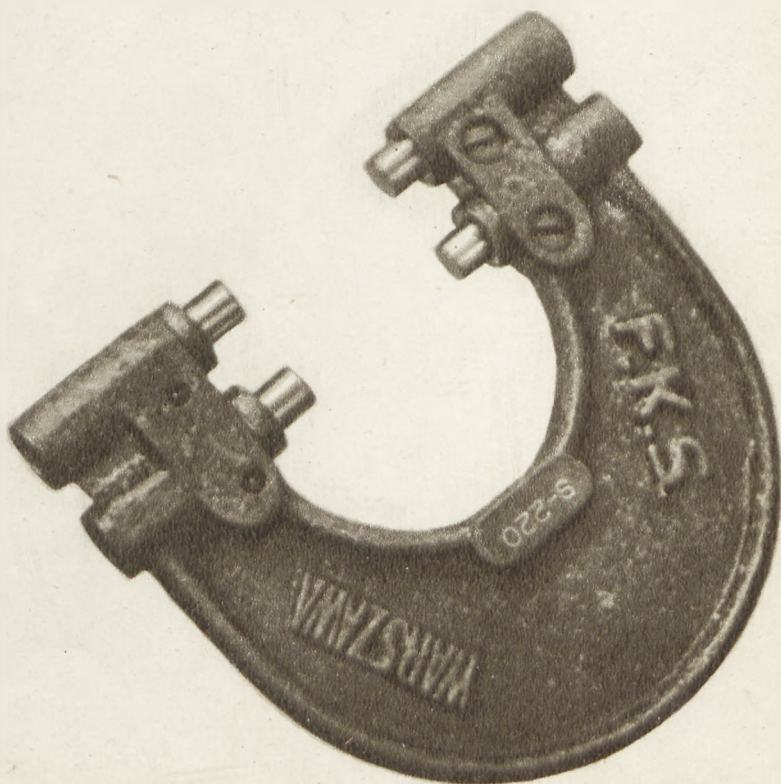
5. Double-ended differential flat gauges: sizes from 80—100 mm.

Made of alloy tool steel, polished and hardened.

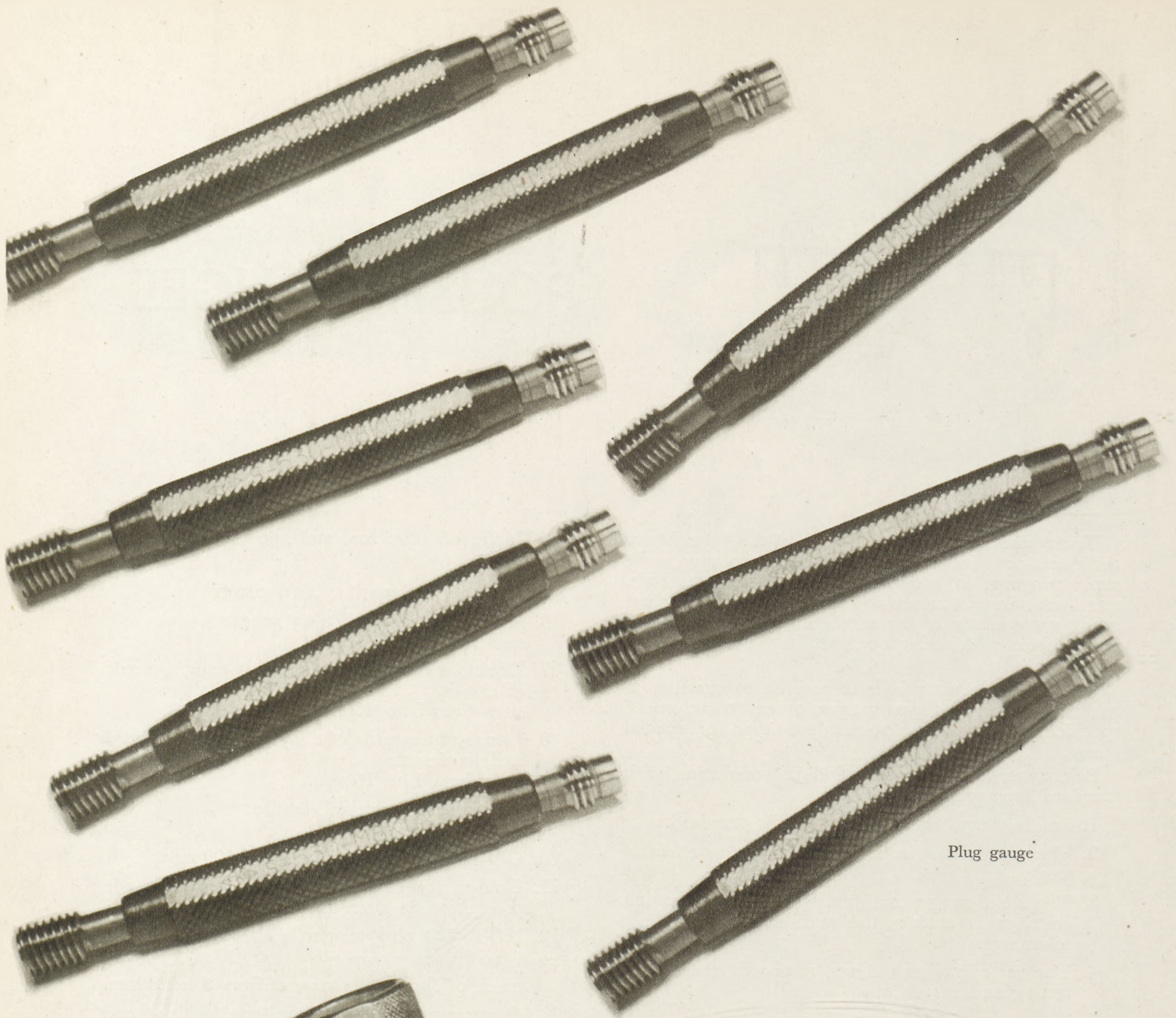
### c) Plug gauges, handles and plugs

6. Reversible two-limit plug gauges: sizes from 1 to 16 mm.
7. Double-ended handles for plug gauges, made of ebonite: sizes from 5 to 19 mm.
8. Gauge plugs made of alloy tool steel, polished and hardened: sizes from 1 to 16 mm.
9. Jaw sleeves, made of ebonite: sizes 3—19 mm.
10. GO plug gauges, in sizes of 8-100 mm.
11. Holders for GO push-on plug gauges, made of ebonite, in sizes of from 8 to 28 mm.
12. NOT GO plug gauges in sizes of 8-100 mm.
13. Holders for NOT GO, push-on plug gauges, made of ebonite, in sizes of from 8 to 28 mm.
14. Gauge plugs made of alloy tool steel, polished and hardened, in sizes of 18-100 mm.

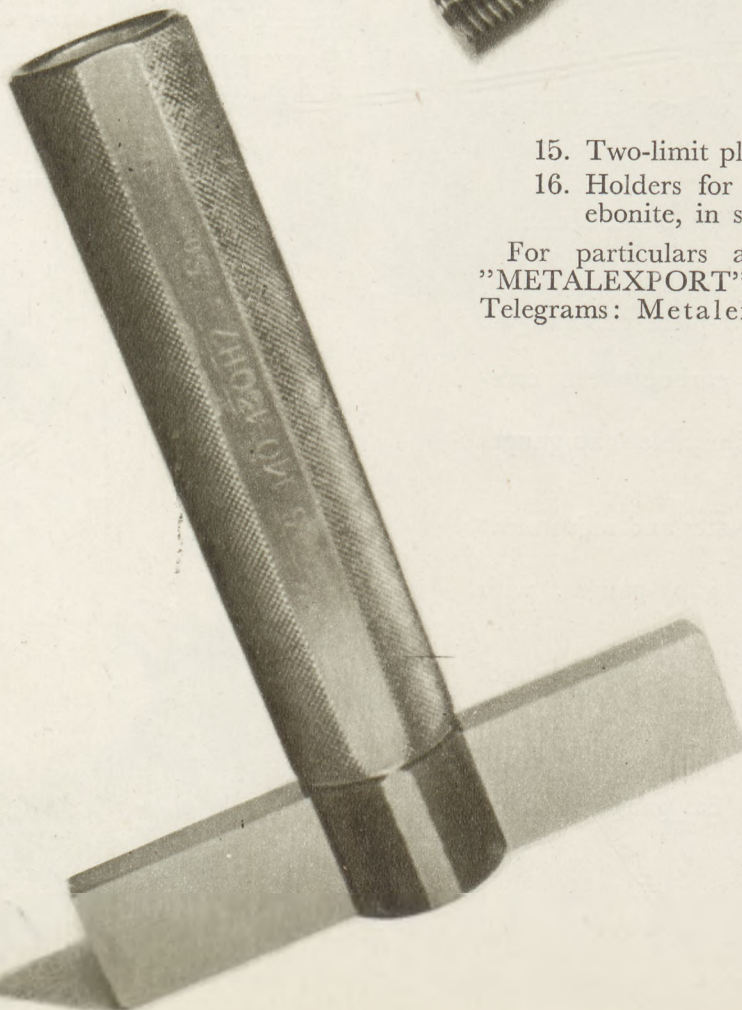
Adjustable snap gauge







Plug gauge



Flat gauge

15. Two-limit plug gauges, in sizes of 18-28 mm.

16. Holders for two-limit plug gauges, made of ebonite, in sizes of from 8 to 12 mm.

For particulars apply to the sole exporters —  
"METAEXPORT" Ltd., Mokotowska 49, Warsaw.  
Telegrams: Metalex - Warsaw.



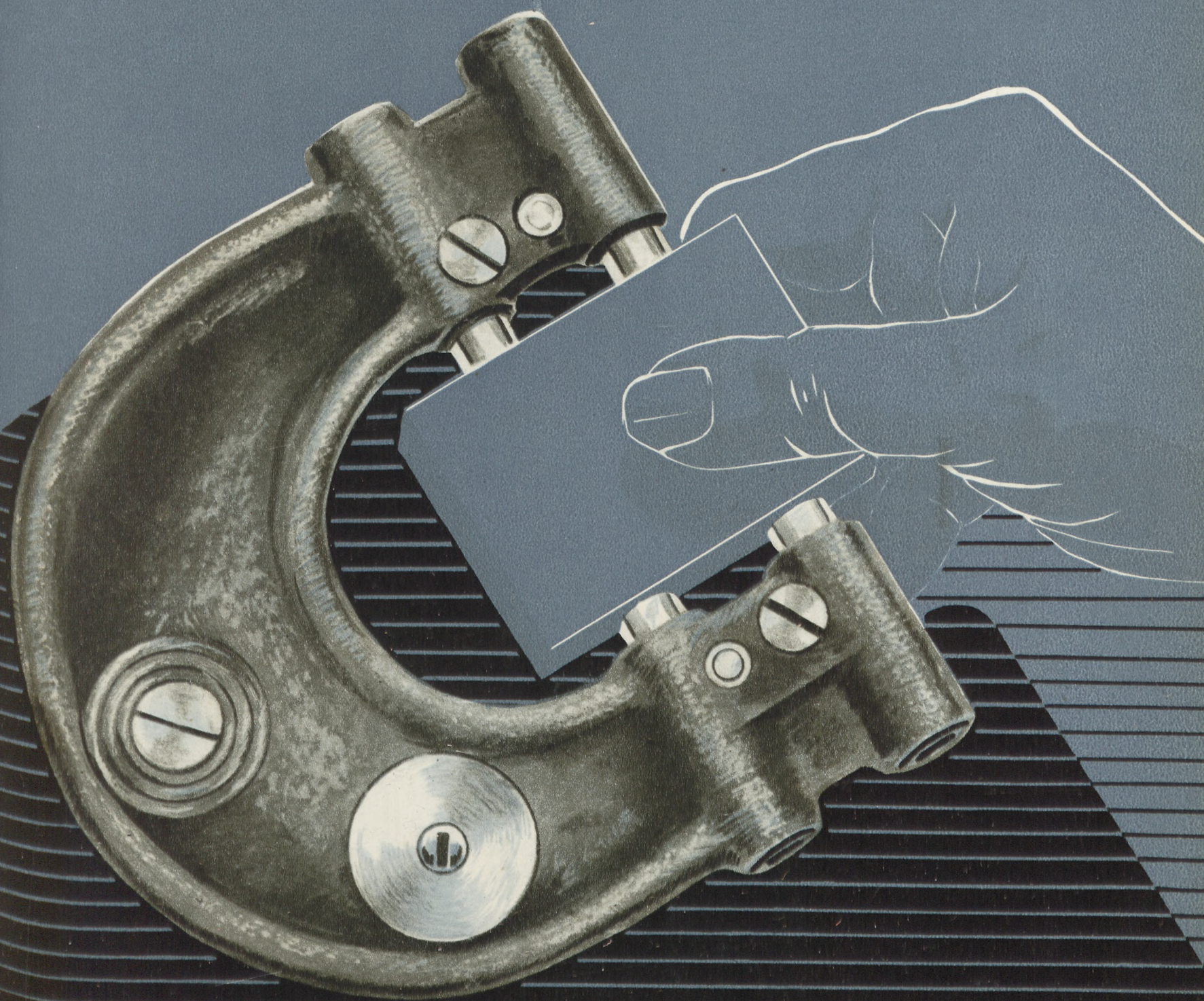
**GAUGES AND DIAL INDICATORS**

EXPORTED BY » **METALEXPORT** «

NATIONAL ENTERPRISE

MOKOTOWSKA 49, WARSAW

TELEGRAMS: METALEX-WARSAW





# POLISH-MADE WATER METERS

## 1. Rotary single-flow water meters

Rotary water meters are designed for measuring the consumption of water in dwelling houses, factories, public utility buildings, etc.

The selection of the most suitable meter for all purposes can easily be made from the wide range of water meters made in Poland.

Rotary water meters are made in sizes of 3, 5, 7, 10 and 20 m<sup>3</sup>/h — rated capacity.

The meters are, according to the purpose for which they are intended, made in the following varieties:

dry or wet, for cold, warm or hot water.

Type JSW dry meter, with the driving mechanism working in water and the counter mechanism working dry, is, because it facilitates readings, the type most generally used. These meters can, since the driving mechanism does not quickly become soiled, also be used for hot filtered water.

Fig. 1 gives a general illustration of the meter, and Fig. 2 a section through the meter.

Type JMW wet meters have one mechanism only working in water, and should, therefore, be used for clean and thoroughly filtered water.

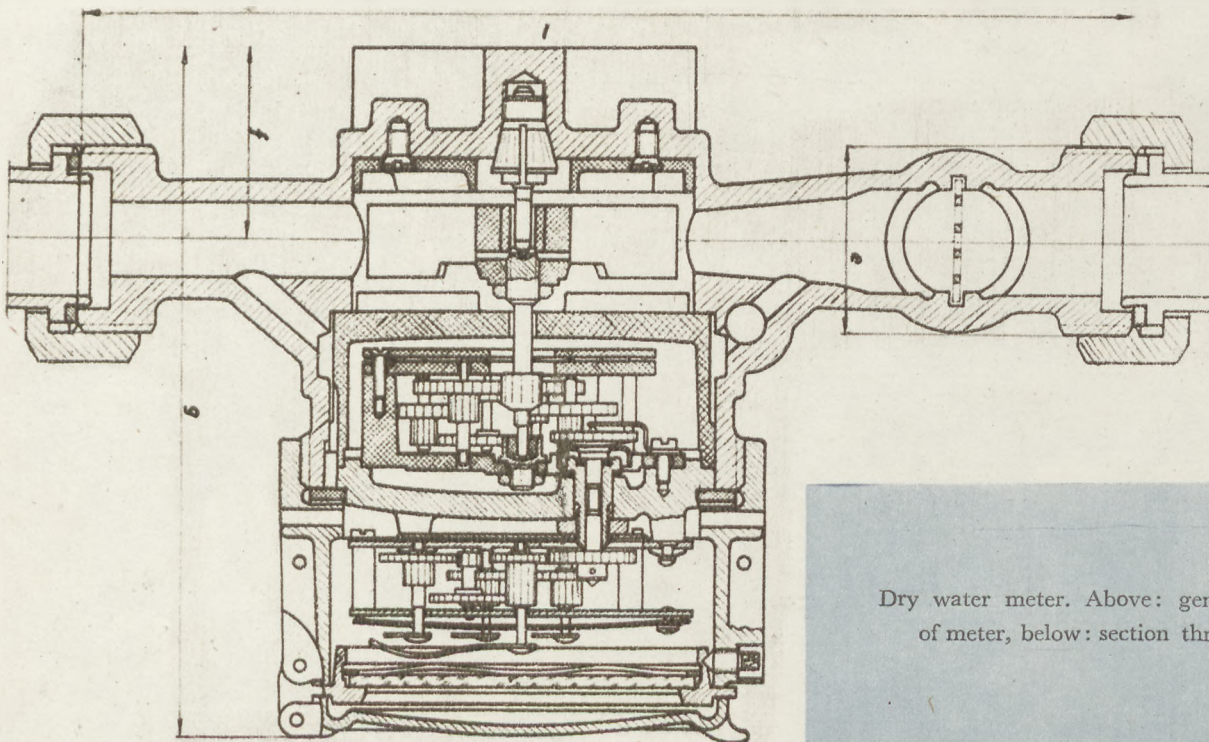
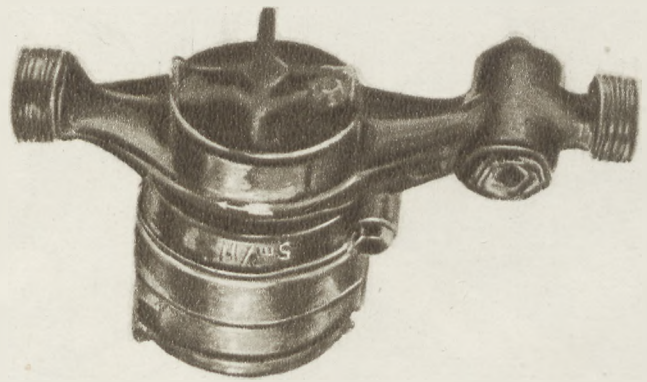
Our meters are of the single-flow type, that is to say, the water passing through in a single flow, actuates the impeller, the movement of which is transmitted to

the counter by means of a clockwork. The meter works, as a result of simplicity of design, with very small pressure loss.

Water meters for warm and hot water are made of materials resistant to high temperatures.

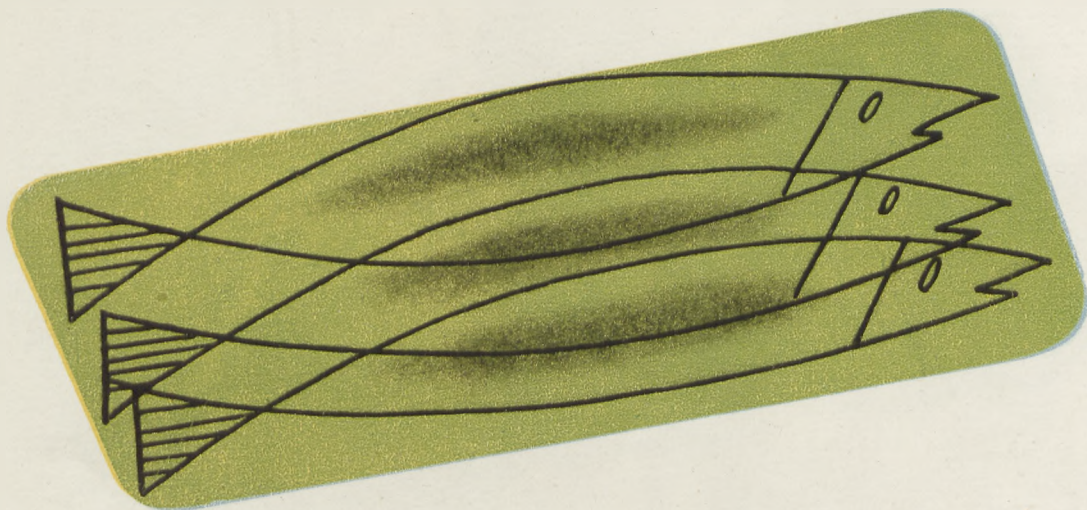
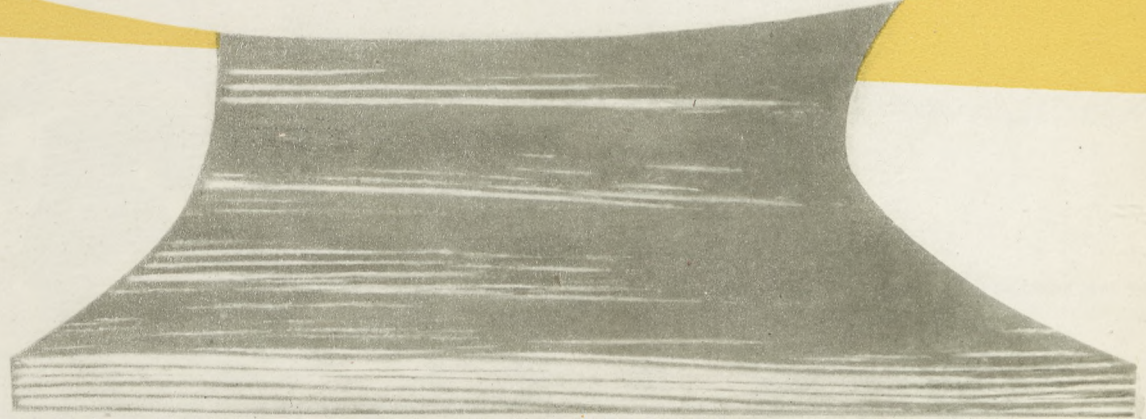
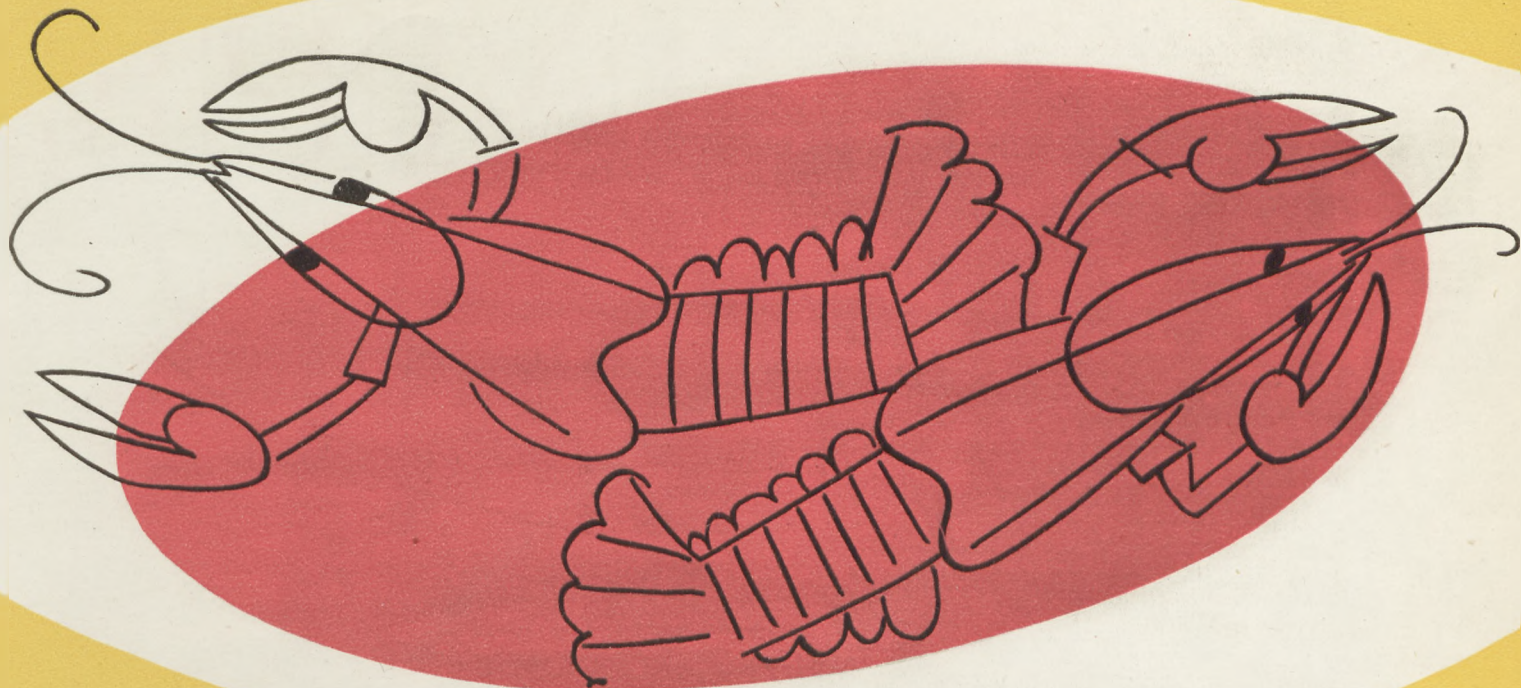
Features of our water meters are as follows:

- The meters are made of selected materials by a highly skilled staff, thus ensuring accuracy in measuring and high durability. Accuracy of readings — within  $\pm 2\%$ .
- Simplicity of design and reduced weight of this type of meter diminish transport and maintenance costs.
- Resistance to low temperature influences (below zero), as a result of a frost protecting device being incorporated in the meter.



Dry water meter. Above: general illustration of meter, below: section through meter





# “ANIMEX”

WARSAW, HOŻA 66/68

EXPORTS: FISH: LIVE • FRESH • FROZEN • SMOKED; FRESH-WATER FISH: CARP • PERCHPIKE • PIKE • BREAM • BLEAK • EEL; SEAFISH: COD • SALMON; CANNED FISH; LIVE GRAWFISH.

SUPPLIED IN: REFRIGERATOR VANS • AQUARIUM VANS • ICE-COOLED VANS • REFRIGERATOR MOTOR VANS.

IMPORTS: HERRINGS • SPRATS.



# SKÓRIMPEX



BI-S7

EXPORT AND IMPORT OF RAW  
HIDES AND LEATHERS •  
EXPORT OF FANCY LEATHER  
GOODS, TRAVELLING REQUI-  
SITES, TECHNICAL LEATHER  
GOODS AND FURS

"SKÓRIMPEX"

SIENKIEWICZA 9, ŁÓDŹ • TELEPHONES: 16453 and 25840 • TELEGRAMS: "SKÓRIMPEX" ŁÓDŹ



— All parts likely to come into contact with water, including spindle and bearings, are made of non-corrodable metals or other materials resistant to the effects of water.

Accurate functioning of the meters is ensured by rigorous test methods.

The test and inspection include:

- a) Technical inspection of the meter as to size, material used in manufacture, accuracy of screw threads, accuracy of finish of inside and outside surfaces, markings, etc.
- b) Hydraulic test on a test bench in order to determine the measuring properties of the meter, in particular starting moment, accuracy of reading, capacity and tightness.

The measuring properties and permissible tolerances in the readings of rotary single-flow water meters are on the same level as those of meters made in other countries.

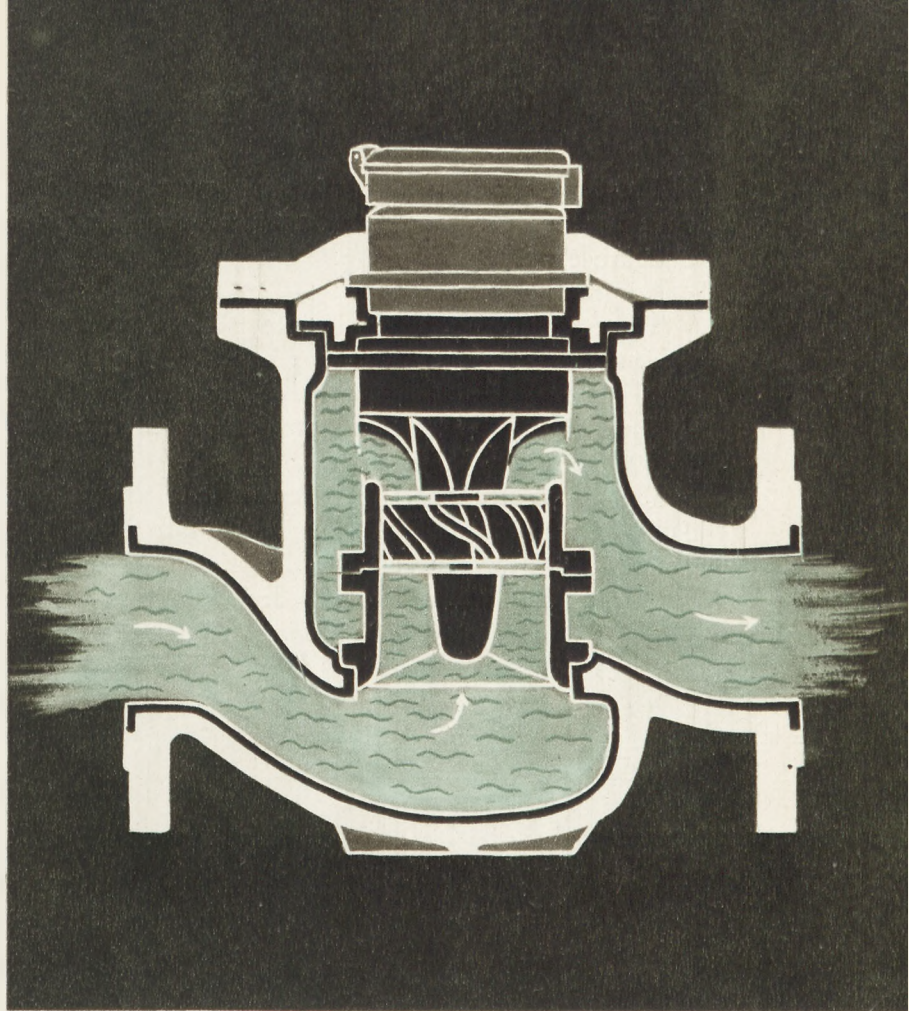
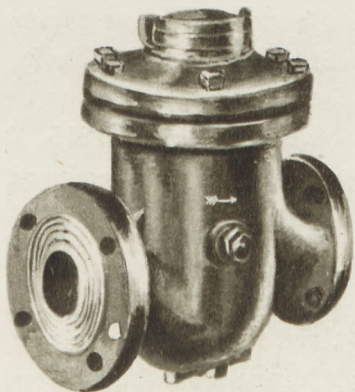
Careful consideration should be given, when selecting water meters, to the type most suitable for the actual working conditions. Selection should not be contingent on the capacity of the meter alone. The type of meter — wet or dry — and the daily and monthly load should also be taken into account.

The daily load of water meters should not exceed twice the rated load, and the monthly load — three times the rated figure.

The lowest limit value of accuracy is determined by the quantity of water which the meter is able to register within a 5% tolerance.

The table given below shows the leading characteristics of single-flow meters for cold water at temperatures up to 40°C.

Woltmann-type helical blade meter



Section through the Woltmann-type meter

Rated diameter	mm ins.	13 1/2	20 3/4	25 1	30 1 1/4	40 1 1/2
Rated flow at a loss of head of 10 m water column	m <sup>3</sup> /h	3	5	7	10	20
Safe load: daily monthly	m <sup>3</sup>	6	10	14	20	40
	m <sup>3</sup>	90	150	210	300	600
Starting moment	ltr/h	18	25	35	50	90
Lowest limit of accuracy	ltr/h	40	60	80	110	185
Dimensions: without unions: overall length over unions: overall length " height " width	mm	190	190	260	260	300
	mm	288	288	378	378	438
	mm	130	130	140	140	145
	mm	100	100	115	115	135
Weight, incl. unions	kg	2.9	3	4.8	5.3	6.9
Counter dial: minimum graduation on dial scale measuring range	ltr. m <sup>3</sup>	1 10 000				

The values of the starting moment shown in above table apply at inlet pressures not exceeding 5 Ats.

## 2. Woltmann type helical blade water meters

Woltmann type helical blade meters are invariably used for measuring major volumes of cold water at temperatures up to 40°C and at pressures up to 16 Ats.



These meters have high rates of flow at very little pressure loss; they also have a wide measuring range and are extremely accurate.

Accuracy of readings —  $\pm 2\%$ .

These meters are made in two distinct types:

- a) type MP — with vertical impeller spindle
- b) type MZ — with horizontal impeller spindle

Type MP water meters are made in rated diameters of 50, 80, 100 and 150 mm.

The measuring range of these meters amounts to 1000000 m<sup>3</sup> for the 50, 80 and 100 mm sizes, and 10000000 m<sup>3</sup> for the 150 mm size.

Type MZ water meters are made in rated diameters of 50, 80, 100, 150 and 200 mm. (Larger meters are in the course of being designed).

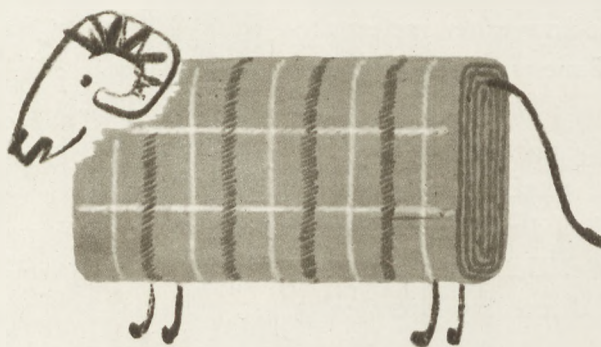
The measuring range is similar to that of type MP meter.

### 3. Coupled water meters

Coupled water meters of 50/25, 80/30, 100/40 and 150/40 mm diameter are designed for measuring cold water at temperatures up to 40°C.

Coupled water meters consist of a helical blade meter and a rotary meter, connected in series. They are used for higher and substantially fluctuating rates of flow. The accuracy of readings is within a 2% tolerance.

Enquiries for water meters should be sent to "METAEXPORT" Ltd., National Enterprise, Mokotowska 49, Warsaw. Telegrams: Metalex-Warsaw.



## POLISH WOOLLEN FABRICS

The forecasts of various champions of synthetic filaments as to the impending decline of wool as a raw material have, as is borne out by customers in all parts of the world, proved to be wrong.

The post-war consumption of woollen piece goods is far in excess of pre-war figures, and the current wool production can hardly cope with the requirements of the world textile industry.

Wool owes this popularity to its unique utility qualities (particularly the thermal properties of wool) and the neatness of its appearance.

The woollen industry in Poland plays a role of similar importance as in other countries — a role enhanced by a tradition extending over some centuries.

The first concentrations of this industry in various

parts of Poland date from the transition period from the middle ages to modern times; that period is also the first occasion on which reference is made to Poland's wool trade with other countries. Poland used to import, at that time, woollen cloths from Flanders, while exporting her own woollen manufactures to Germany, Bohemia, Hungary, Moldavia, Turkey and Russia. The foundations for further development on modern lines were laid after 1815. Woollen mills, though scattered all over the country, concentrated mainly in three districts — Bielsko, Łódź and Białystok. Each of these districts, while turning out a variety of fabrics, specialised in certain definite types of cloths in which it gained fame.

In this way, the Bielsko industry became famous for its high-class worsteds and the Łódź industry — for



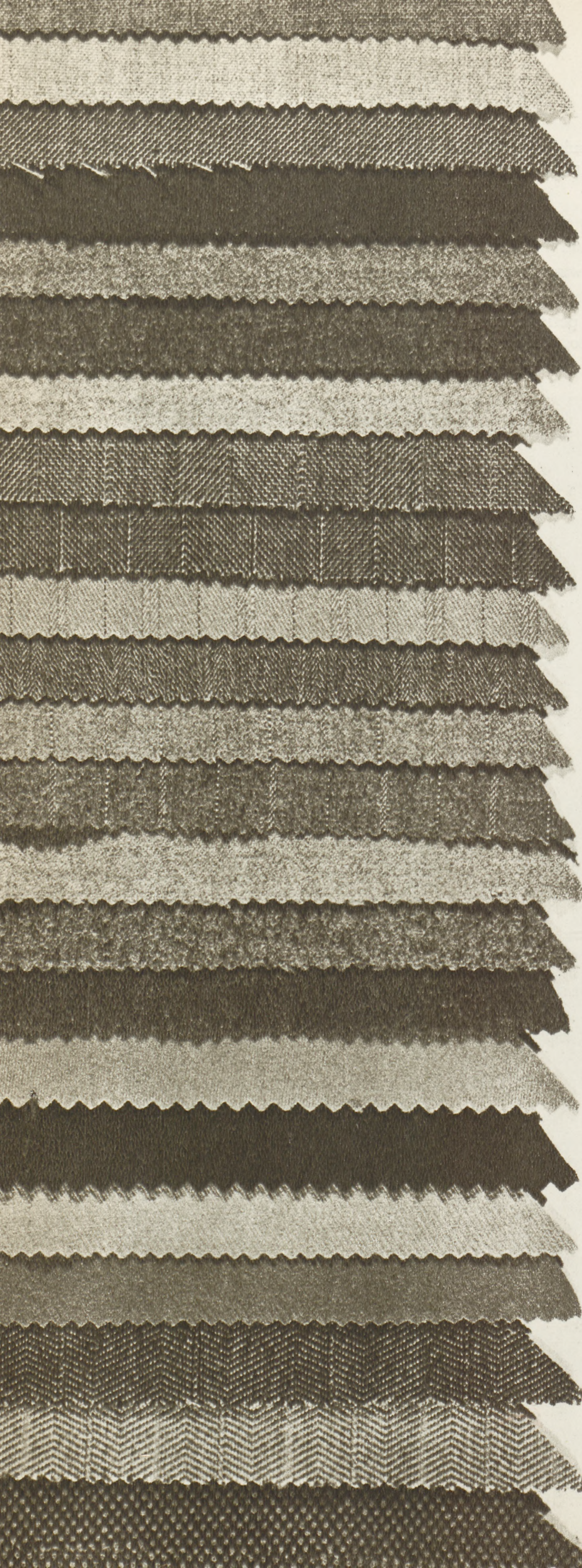
carded dress materials and suitings. Bialystok founded its reputation on heavy fabrics, such as cloths for uniforms and blankets.

Exports of woollen fabrics constituted, at that time, an important item in Poland's foreign trade — an achievement this industry was not to relinquish to this day.

Statistics referring to this period show that woollen goods were being exported to, among other countries,







China, the value of transactions with the latter amounting in 1829, to 6,000,000 of the zlotys of that period.

The woollen industry in People's Poland made rapid strides, so much so that, by 1948, the pre-war output had been exceeded. Exports expanded parallel with the development of this industry. Markets lost during the war were retrieved and exports, embracing 33 countries, reached the pre-war level towards the end of 1947. Exports for 1948 were 250% and for 1949 were 330% above the pre-war figure.

The main factor contributing to these satisfactory results was that the Polish woollen industry introduced — by availing itself of all modern advances in spinning and weaving technique, modernising its plant and training a skilled working staff — new mixtures, such as wool and Steelon (the equivalent of Nylon), and wool and silk, which have triumphantly passed all tests, alike in neat appearance and in thermal properties.

The range of woollen fabrics available for export is so wide that the foreign customer has no difficulty in making his choice.

The principal export lines include:  
heavy overcoating gabardines, weighing 540 grams per metre;  
suiting gabardines, weighing 450 grams per metre;  
dress gabardines, weighing 360 grams per metre;  
tropical fabrics, weighing from 280 to 320 grams per metre;  
worsted flannels, in a number of qualities, ranging from 350 grams to 460 grams per metre;  
worsted and carded suitings, in a large variety of qualities and patterns, weighing from 400 to 540 grams per metre;  
worsted and carded dress fabrics, dyed and patterned, weighing from 220 to 360 grams per metre;  
overcoatings for men's and women's wear, together with a variety of blankets, rugs and squares.

The woollen industry is also executing — in addition to the above items which are in regular production — orders for special fabrics exported to India, Pakistan and the Middle East, as well as for flag cloth for the mercantile marine, and other special lines.

Fabrics are supplied in accordance with our colour charts and pattern cards, although orders are also accepted for cloths to customers' own designs.

The high quality, attractive patterns and exceptional utility values which mark Polish woollen fabrics cause them, to be in great demand in all Continents.

Exports are dealt with by "CETEBE", Exporters and Importers of Textiles, Moniuszki 6, Łódź. Telephone: 14076 (10 lines).





**CETEBE**  
ŁÓDŹ, MONIUSZKI 6



# POLISH WOOLLEN FABRICS

EXPORTED BY **CETEBE**  
EXPORTERS AND IMPORTERS OF TEXTILES

MONIUSZKI 6, ŁÓDŹ













# POLISH DOLLS

"The toy provides the child's first initiation into the world of art; no work, even the most beautiful, will arouse in the mind of man, on reaching his maturity, so much emotion, enthusiasm and joy as a toy will in a child" — says Baudelaire in his little-known essay on toys entitled "Morale du Joujou". The poet stole a march on his contemporaries, and by deep intuition perceived what others were only to discover at a much later date. He perceived the value of the toy in shaping the child's aesthetic intellect.

The first impressions taken by the child on coming into touch with the outside world leave an indelible mark on its soul and make a contribution to its education. It is, therefore, of the utmost importance to pay careful attention to the kind of toy given to the child.

It is not the business of this article to deal with toys in general. Our interest lies in the most important group of toys — dolls.

Because they are the favourite and practically inseparable companion of at least half the children's world — the girls — dolls should be regarded as the most important group among toys.

The boys, in ancient Egypt, played with a chariot and stone crocodile; the girls — with dolls.

Homer's heroes of Hellas used to bring back with them horses for the boys, but dolls for the girls. The boy exchanged, as time went on, the horse for a motor car or aeroplane. But the girl? The girl has remained faithful throughout the ages to her doll.

The doll is, to the girl, a miniature of reality, something, in dress, style and manners, in the nature of a model man. The doll lives. It has its home, family and circle. And a special industry is devoted to producing furniture, crockery and kitchen equipment for the doll.

The doll actually lives in the child's world and becomes its intimate friend — "actors of the great drama of life, reduced to a miniature form by the child's mind" — as Baudelaire says.

But the child grows up, and phantasy subsides. The child finds a place in the universe and subconsciously strives to establish its position. The world of reality begins to fascinate it; the doll is gradually superseded. Yet it never disappears entirely from the girl's life. There remains, between them, the firm link of reminiscences of their past association. The doll,







however, if it happens to be particularly attractive, consolidates its position in the young owner's life, for "a thing of beauty is a joy for ever."

The Polish toy industry appreciated the natural expressions of the human mind, translating them in doll manufacture. There are several varieties of dolls

of which we shall refer to three only, that is to regional, ethnographic and celluloid dolls.

Regional dolls, in sizes varying from 20 to 70 cm, and with attractive faces, are made of impregnated textile fabrics. Their colourful and picturesque regional dresses have captured the world markets.

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The Polish toy industry produces several varieties of dolls of which three groups warrant special mention — regional dolls, ethnographic dolls and celluloid dolls





Poland is among those countries which are devotedly cultivating their folk traditions — in song, dance and attire, all of which are extremely varied. The regional doll, carried in the child's arms, reaches many different corners of the globe.

Ethnographic dolls — the work of the most talented artists, are made of impregnated textile fabrics, with the exception of the hands, legs and face which are made of a special composition. The dolls are of average size, approximately 20 cm, carefully made on a resilient base of fairly stout wire to enable them to maintain and reflect a certain characteristic pose.

The ethnographic doll is something between an artistic toy, a miniature, a filigree and a trinket. It is the most perfect replica of the type of inhabitant of the particular district it represents. It is arousing much interest among experts on ethnographical problems, and numerous letters of thanks received by



"VARIMEX" from all parts of the world prove that it is highly esteemed by museums and private collectors.

Celluloid dolls are also most popular in foreign markets. They possess all the features expected of toys of this kind and are, primarily, intended to be educational in value. This type of doll is by far the most varied of our export toys. A range of sizes is available, varying from the small, 10 cm, "Johnny" and 17 cm couples "John and Margaret" (characters of fairy tale fame) to large 35 and 45 cm dolls. The arms and legs are either stiff or jointed. The faces of these two basic groups vary. They are supplied, both girls and boys, either unclothed or in a variety of dresses made of calico, georgette or velvet. This group also includes small coloured dolls and Piccaninnies for children to play with in their bath.

The export of dolls is in the hands of "VARIMEX", Polish Company for Foreign Trade, Wilcza 50/52, Warsaw.







## POLISH TABLE AND FANCY EARTHENWARE

Pottery manufacture in Poland follows age-old traditions. The potter's wheel is known to have been used as early as the III century, a high level of pottery craft being reached in the X and XI centuries. The fact that potters were, at that time, in the habit of marking their ware with what might be termed "trade marks", over a hundred specimens of which have survived the ages, indicates the great breadth of the development of the pottery trade. Pottery was, even in those days and on account of its high quality, being exported to countries on the eastern shores of the Baltic and to Scandinavia.

Famous pottery works were in existence in Poland in the XVIII century. The ware produced in these factories was, as a result of this craft having been closely linked with national traditions, on a high artistic level, and specimens from that period are highly valued by connoisseurs and collectors.

Several of the pottery works now in existence were established in the early part of the XIX century.

Those who look at a finished white plate, or ornamented cup, hardly ever give a thought to the complicated processes concerned in production. Raw materials, such as clay, china clay, quartz sand, feldspar and limestone, yielding a pure white colour in firing, have to be thoroughly ground and mixed into a homogenous, plastic paste from which machinery or the

Pottery exports from Poland include the following earthenware products: plates in a variety of sizes, salad bowls, soup bowls, complete dinner and coffee sets, vases, etc.

deft hands of the craftsman conjure up the most intricate shapes. Firing, at a temperature of 1200°C, and glazing produce a light ware with high lustre.

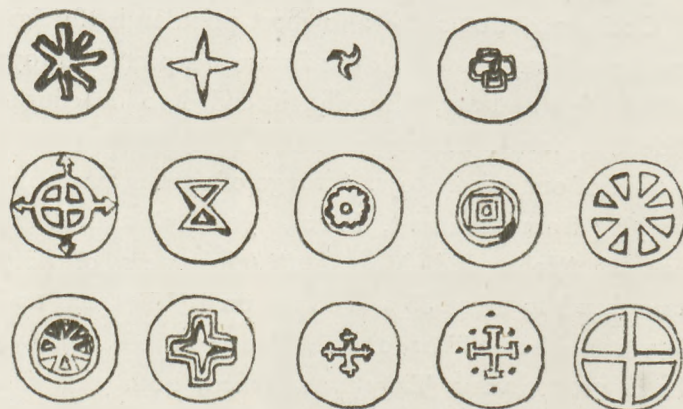
Much has changed in the pottery industry since pre-war days. Planned economy ensures continuous and uniform work at the potteries. Centralised management makes possible the exchange among the various enterprises of the results of their experiments. This, in fact, was one of the main factors which made it possible for the potteries, in spite of heavy war losses in personnel and equipment, to be restored and restarted in



a comparatively short time and for all technical difficulties to be surmounted.

The restored pottery industry managed, in spite of the heavy demand, during the initial post-war period, for earthenware for home market requirements, to resume with foreign countries trade relations temporarily severed by the recent war. New trade relations have been opened up, and the circle of permanent customers continues to increase.

The Polish pottery trade, employing both its old and experienced craftsmen and newly trained personnel, is in a position to meet, alike in shape and in ornamental



Polish pottery craft reached a high level as early as in the 10th century. Potters were, at that time, in the habit of marking their wares with what might be termed "trade marks", over a hundred specimens of which have survived the ages. Some of these are shown in our illustration



designs, all specific requirements of individual markets, while maintaining the usual high standard of quality.







Exports include: plates in a variety of sizes, salad bowls, soup bowls with or without cover, complete dinner and coffee sets, vases, smoker's sets, etc. Our works specialise in elaborate, hand-painted under-glaze decorations, although sprayed as well as stencilled decorations are also a feature.

Packing for shipment in wood-wool and strong

wooden cases fully protects the ware from possible damage. The dimensions of the cases have been standardised so that individual lots take up the minimum cargo space, thus reducing shipping charges.

The sole exporters of earthenware are "MINEX" Ltd., Exporters and Importers of Minerals, Cement, Glass and Ceramics, Kredytowa 4, Warsaw.

# »MINEX«

EXPORTERS AND IMPORTERS OF MINERALS, CEMENT, GLASS AND CERAMICS

**KREDYTOWA 4, WARSAW**

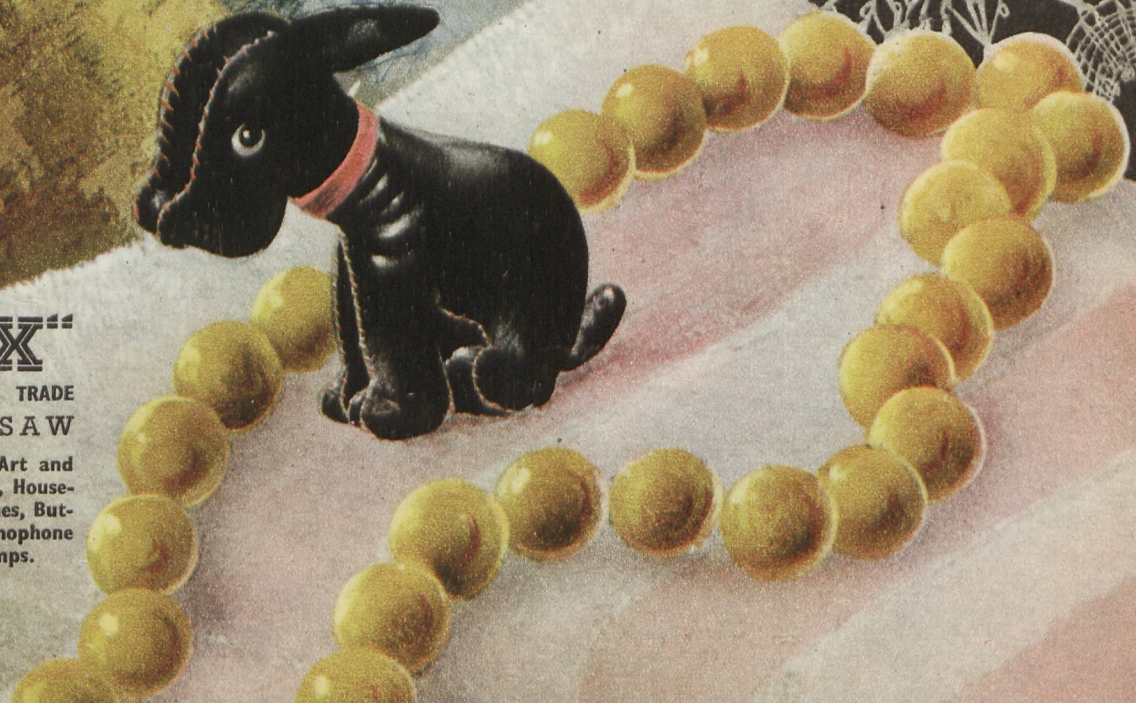
Telephone: 81980 and 81981 • Telegrams: «MINEX» WARSAW

EXPORTERS OF:

TABLE EARTHENWARE. FANCY EARTHENWARE. GLAZED TILES, SANITARY EARTHENWARE. CHINA TABLE WARE. FANCY CHINAWARE. CHINA HOTEL WARE. ELECTRICAL PORCELAIN. PORCELLITE TABLE WARE. FANCY PORCELLITE WARE.







# "VARIMEX"

LTD., POLISH COMPANY FOR FOREIGN TRADE  
WILCZA 50/52, WARSAW

Exporters of products of Decorative Art and Handicrafts, Christmas-tree Ornaments, Household and Toilet Brushes, Artists' Brushes, Buttons, Rubber Goods, Pianos and Gramophone Records, Amberware, Postage Stamps.



**Popexport**

PAPER EXPORTERS AND IMPORTERS  
WSPÓLNA 50, WARSAW



*Tomophon*





Tomophane, as a wrapper, lends distinction to the goods; coloured Tomophane, in particular, produces exceptionally striking effects

## POLISH TOMOPHANE IN WORLD MARKETS

Tomophane — also known as Cellophane, Transparit, Heliocell, Rayophane, Cellux and certain other names under which it is marketed in foreign countries — stands alone among packing materials.

Tomophane, being a transparent viscose paper, is produced in machines similar to those used in ordinary paper manufacture; the viscose is made to congeal into foil which is eventually treated in special baths and dried.

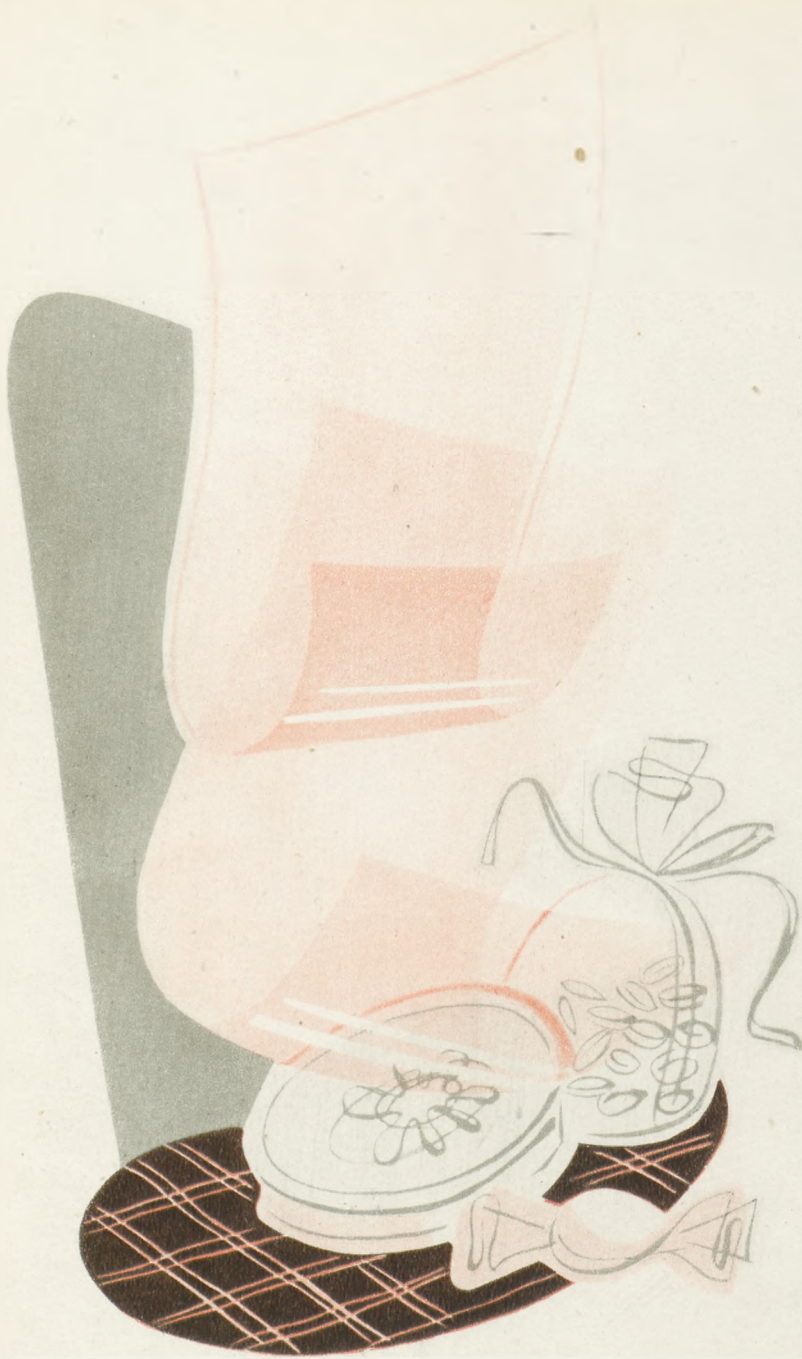
The result is a glossy, smooth, transparent and either colourless or coloured product which, on account of its peculiar value as a packing material, is well worth the slightly higher cost, as compared with ordinary

paper. Tomophane has, although it is made by a process similar to that used in the manufacture of corresponding products in other countries, recently secured an important circle of customers in foreign markets. The exceptional physical properties of Tomophane, such as for instance high degree of resistance to pressure, compactness, imperviousness to damp and transparency of the substance from which it is made, together with the fact that it lends itself perfectly to printing, qualify it as being much superior to even the highest grades of packing paper.

These qualities of Tomophane are, from a practical point of view, highly appreciated, particularly in so







laid on the effect of overprinting Tomophane which makes the impression of the printing having been done direct on to the goods.

Polish Tomophane can claim, though exports of this article were not commenced until after the recent war, notable success in even the remotest corners of the globe.

We have, all over the world, customers who express high appreciation for our product. This success has been achieved largely through painstaking grading of Tomophane for export. Tomophane is supplied in rolls and sheets, in any quantity, size and weight to suit customers' requirements.

Particular care is devoted to packing, so as to prevent the goods from sustaining damage on even the longest routes. Tomophane is wrapped in several layers of waterproof paper, and packed in boxes made of thin zinc sheet which, after being hermetically sealed, are placed in wooden cases.

We export, in addition to Tomophane paper, also Tomophane wool, which is used as an inside packing to protect more valuable fancy goods from damage.

Tomophane wool, in a range of colours, is also used as an attractive decoration at parties, festivals, etc.

The sole exporters of Tomophane and Tomophane wool are "PAPEXPORT" — Paper Exporters and Importers, Wspólna 50, Warsaw.

far as its use as a packing material for a wide range of food products and articles of personal wear are concerned.

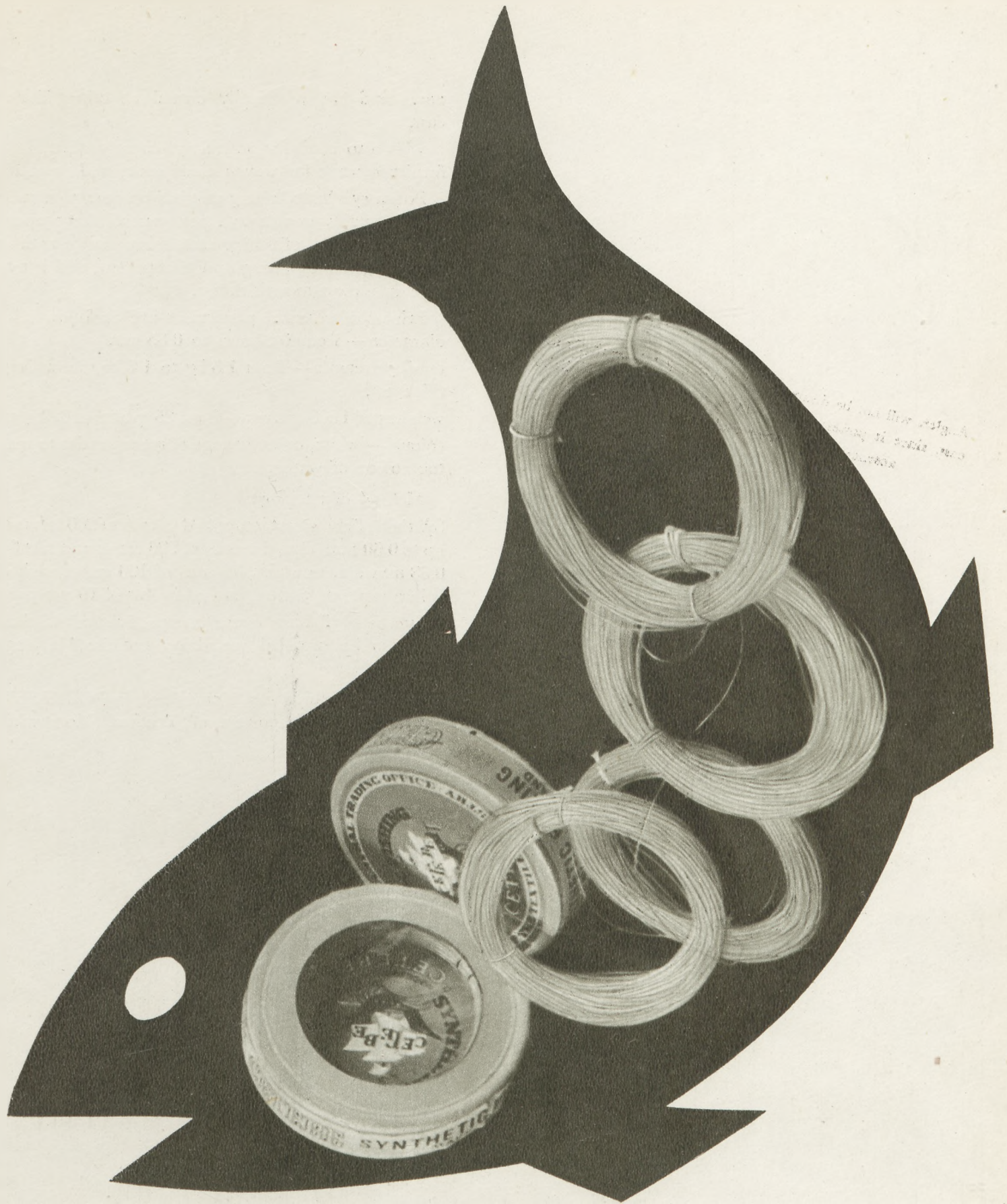
Tomophane has, for hygienic considerations, been made compulsory as a wrapping for certain food products, since it ensures protection against dust, insects, direct handling, etc. It also offers, in certain cases, full protection against atmospheric influences, largely preventing perishing and preserving the goods in fresh condition for a considerable time.

Tomophane is also of considerable value to outfitters in displaying their goods and promoting sales, enabling the goods to be examined without the necessity of unpacking, preventing dust penetration and handling damage, and protecting the colour of the goods from fading.

The aesthetic values of Tomophane wrappers play an important role in almost all branches of trade, particularly as concerning all kinds of fancy goods. Tomophane wrappers enhance the appearance of goods, particularly striking effects being obtainable by the use of coloured Tomophane. Stress must also be







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## POLISH SYNTHETIC FISHING CAST

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Synthetic (Nylon) cast is a novelty introduced to the world markets only a few years ago. It is the simplest form of synthetic filament having, in its various forms, such exceptional qualities as have secured for it a leading position throughout the world.

Synthetic fishing cast is, as a result of its qualities, finding an exceptionally wide use for various pur-



poses and has practically ousted all other kinds of cast.

It is also used for stringing tennis rackets, in the furniture trade for woven chair seats, and so on.

Polish synthetic fishing cast has become particularly and justifiably popular. It possesses all the properties usually expected of fishing cast, being pliable and non-brittle, extremely strong and transparent, and is available in almost any thickness.

Principal technical particulars are as follows:  
diameter — from 0.24 mm to 0.85 mm  
tensile strength — from 1.5 kg to 1.8 kg, according to thickness,  
weight per 1000 metres — from 85 grams to 620 grams,  
colour — white, or in a range of green shades to match the colour of water;

**Method of packing:**

Synthetic fishing cast is supplied in coils of 200 mtrs; cast up to 0.60 mm dia., in coils of 200 mtrs; and cast from 0.68 mm dia. upwards, in coils of 100 mtrs; each coil is in a separate carton, packed in lots of 10 per parcel.

Synthetic fishing cast, irrespective of thickness, can also be supplied reeled on bobbins, in lengths of 50 mtrs.

Synthetic fishing cast is marketed by "CETEBE" — Exporters and Importers of Textiles, Moniuszki 6, Łódź.

Anglers will not be disappointed in using Polish synthetic fishing cast, since it possesses all qualities expected of it — pliability, absence of brittleness and exceptional strength









POLISH ONIONS

SOLE EXPORTER

*„Dalspo“*

FOREIGN TRADE COMPANY,  
STATE ENTERPRISE

**FILTROWA 61, WARSAW**

TELEPHONE: 75880 • TELEGR.: "DALSPO" WARSAW







Polish onions are, just before shipment, packed in coloured network bags holding 25 kg net; these bags enhance the appearance of the goods, the clear golden shade of the scale showing through the mesh of the bag

## THE POLISH ONION

The Polish onion, as a crossbreed, combines, with mellow flavour, sweetness and a delicate and not objectionable aroma, all the characteristic nutrient properties peculiar to this vegetable.

The Polish onion is a cross between the Zittau and the South-Russian, or Rostov, species.

Judicious cultivation and crossbreeding of these two species resulted in producing a choice Polish variety known as "Wolska". Two types of onion have, for a number of years, proved most popular for cultivation — the Zittau variety in the western and the Wolska in the central and eastern districts of the country, the Wolska gradually ousting the Zittau variety. The Zittau onion is also exported to foreign markets which show a preference for the flat type of onion.

The Wolska onion is perfectly oval in shape, of light sea-green colour and delicate flavour and aroma. It fully deserves its established nickname of "Spanish onion of the North".

The appearance of onions of this type in foreign markets came as a revelation to importers, since the Polish onion was, prior to 1935, supplied anonymously, without brand specification, to foreign markets. Its origin was, until it was discovered that it was a Polish onion supreme in quality, taste and other properties, kept secret by those foreign firms who used to export

it from Poland. It proved, bred, so to speak, in climatic conditions of a more continental nature, more compact and thus more immune to the diseases common among onions cultivated in damp climates with a high rate of rainfall. It also proved, on account of a higher content of dry substance, much easier to keep over the winter period, until early spring.

The economic authorities in People's Poland devote special care to onion plantations, in order to ensure proper means for development of production.

Special warehouses in Gdańsk — the only ones of that type in Europe — were built at some considerable expense. Large quantities of onions, straight from the plantations, and only roughly cleaned and graded at the production centres, are dispatched without delay by rail, in open, well-ventilated cases, to Gdańsk. There, in the warehouses mentioned above, they are spread out singly on latticed floors and mechanically dried by means of a dry air blast. This causes the onion to exude all excessive moisture and the leaf stalks to become ideally dry. The onion also acquires the typical rustling effect and the property of keeping over a long period. The outer protective scale, frequently soiled, falls away unaided, leaving a delightfully clear and clean bulb. In this manner, thousands of tons are accumulated in the country prior to the setting in of the early winter frost so detrimental to the onion.



Packing in 25 kilogram red jute or cotton bags which, the clear golden shade of the scale showing through the mesh of the bag, enhances the external appearance of the goods, and is not done until the goods are actually required for delivery.

Poland also has available, in addition to the Zittau and the Wolska varieties mainly earmarked for export, a third variety of considerable commercial value, namely the so-called red onion. This is more hardy to resist adverse atmospheric conditions and therefore more suitable for long-distance transport and storage over longer periods. Its keen aroma causes it to be highly esteemed as a nutrient by sailors in the north and among the races of the Middle East (Arabs and Jews).

Seeds and planter bulbs of both the Zittau and Polish varieties are bred at special plantations, under expert supervision. The seed is supplied to farms run by production co-operatives and to individual farmers who have concluded appropriate planters' contracts for the supply of export-quality onions. All plantations are under the control of special experts throughout the period of vegetation.

Onions collected and delivered to Gdańsk are sorted in accordance with international standards into Large A grade, from 7 cm diameter upwards, Medium B grade— from 4 $\frac{1}{2}$  to 7 cm diameter and Pickle P grade — from 2 to 3 $\frac{1}{2}$  cm diameter, the latter being intended for preserves, etc. Onions of the smaller kind, from 3 $\frac{1}{2}$  to 4 $\frac{1}{2}$  cm, or so-called Drilling D grade, as well as separated, deformed onions, generally described as Commercial Onion, are supplied to less fastidious markets.

The sorting is performed under the rigorous control of Inspectors of Standards who refuse to pass for export any but the soundest batch, even though the customer may have agreed to accept an inferior quality.

Every consignment must, within 7 days of despatch, be finally passed by the inspector and, in the event of any fault being discovered, be re-sorted.

The tolerances, in respect of whatever fault, are confined to very fine limits. In the event of the discovery of disease or signs of putrefaction, no tolerance at all is permissible.

The chief advantage of the Polish onion export organisation is the facility, as affecting quantities and time of delivery, for regulating supplies to foreign markets. It occasionally happens that consignees lack proper warehousing facilities for keeping consignments of onions over longer periods. Poland, with her unique warehousing arrangements, offers assistance in such cases. The regular sailings from Poland to the United Kingdom and Palestine, moreover, make it possible for shipments to be made of onions stowed in properly ventilated or refrigerated holds. Experience has proved that in all cases consignments of onions from Poland arrive in perfect condition.

Poland, by supplying an ideally sound, high-class and well prepared commodity, has come to occupy a prominent position among onion exporters.

Poland supplies, moreover, in addition to fresh onions packed in red cotton bags, dried onions, sliced and packed in suitable paper bags. Onions of this grade, used for miscellaneous processing purposes, enjoy a good reputation among foreign customers.

The export of onions from Poland is carefully planned and does not rely on ephemeral opportunities in foreign markets.

Export arrangements are attended to by "DALSPÓ", Foreign Trade Company, Filtrowa 61, Warsaw.

## THE QUALITY OF POLISH SUGAR

The Polish sugar industry is this year celebrating the 150th anniversary of crystalline beet-sugar production. The Polish sugar industry has, during this period, as the result of experience gained in the first sugar works at Konary, near Wrocław, shown a spectacular rate of development.

The long and tedious path that led to the development of this industry is a proud testimonial to Polish technicians and workers.

To reach, from an initial output of some dozens of quintals, our output of 30 000 quintals of sugar per day, and to reduce the processing time from 7 months to a matter of 60—70 days, is no mean feat to have been achieved by the sustained efforts of Polish sugar works engineers.

Sugar-beet now produced (see reference at some length in No. 5/6 of our magazine) is of outstanding quality, with a sugar content of up to 21—22%.

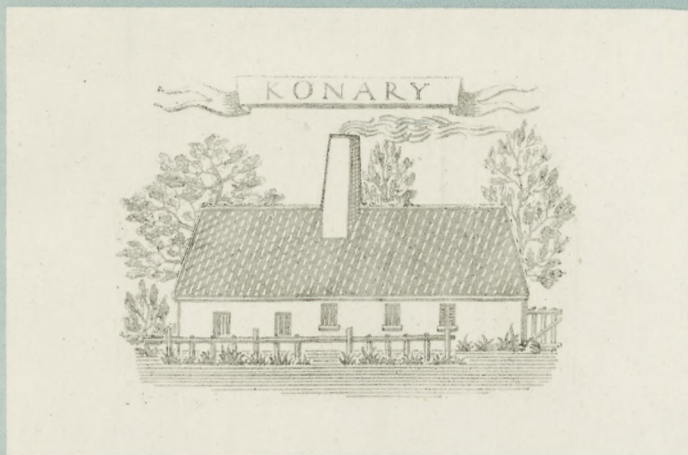
These results have been reached as a result of years of scientific research and experimental work, based on expert selection of best quality seed, with due consideration to the specific conditions of climate and soil obtaining in various parts of our country.

Polish sugar works are, with 150 years of scientific and practical experience behind them and with the high-grade raw material available to them, producing sugar of excellent quality. It must be emphasised that our technological processes render superfluous the use of chemical media detrimental to the consumer's health.

The technological process is, to refer to salient points only, as follows:

Fresh sugar-beet, straight from the plantations, are, after having been thoroughly washed with clean water, sliced into strips known as cossettes.





The first beet-sugar works in Europe and, in fact, the first in the world, was founded in Konary, in 1801, — 150 years ago. The sugar campaign took 6 months to complete its cycle and dealt with only some dozens of quintals of beet. A comparison between the original miniature sugar works of Konary and the large sugar works of modern times provides an idea of the immense progress made by the sugar industry in the meantime. The historic building of the first sugar works of Konary was partially damaged by war; the illustration published above has been reproduced from documents still extant. Below: one of the largest modern Polish sugar works

These yield, after treatment in appropriate sterile apparatus, raw beet juice. This juice is purified to yield pure thin juice which is then concentrated to the consistency of syrup.

Concentration takes place in apparatus which precludes the decomposition of the sugar.

The syrup obtained is then crystallised and the non-crystallisable sugar separated from the crystalline product in centrifugal machinery. The crystalline product forms, after being washed with water and dried, the final product — granulated sugar.

The technological process is so arranged as to prevent the product from coming into contact with human hands.

White sugar is one of the few products which emanates from technological processing in a state of almost perfect chemical purity.

The mean analysis of this sugar is as follows:

saccharose ( $C_{12}H_{22}O_{11}$ ) . . . . .	99.7 — 99.9%
moisture . . . . .	from 0.03 to 0.12%
ash, not in excess of . . . . .	0.03%
neutral reaction (pH— 7.0—7.3)	
at a colorimetric purity of approx.	0.5—0.8°

Poland produces, in addition to common crystals, also refined crystalline sugar, put through an additional process of purification by means of activated or bone carbon.

The difference between common and refined crystalline sugar is that the latter is more thoroughly bleached and has a slightly higher saccharose and smaller ash content.

Lump sugar, both cast and compressed, is made in various sizes.

Cast cubes: 1. cubes, cut, 17×14×14 mm  
2. cubes, sawn, approx. 17×17×17 mm

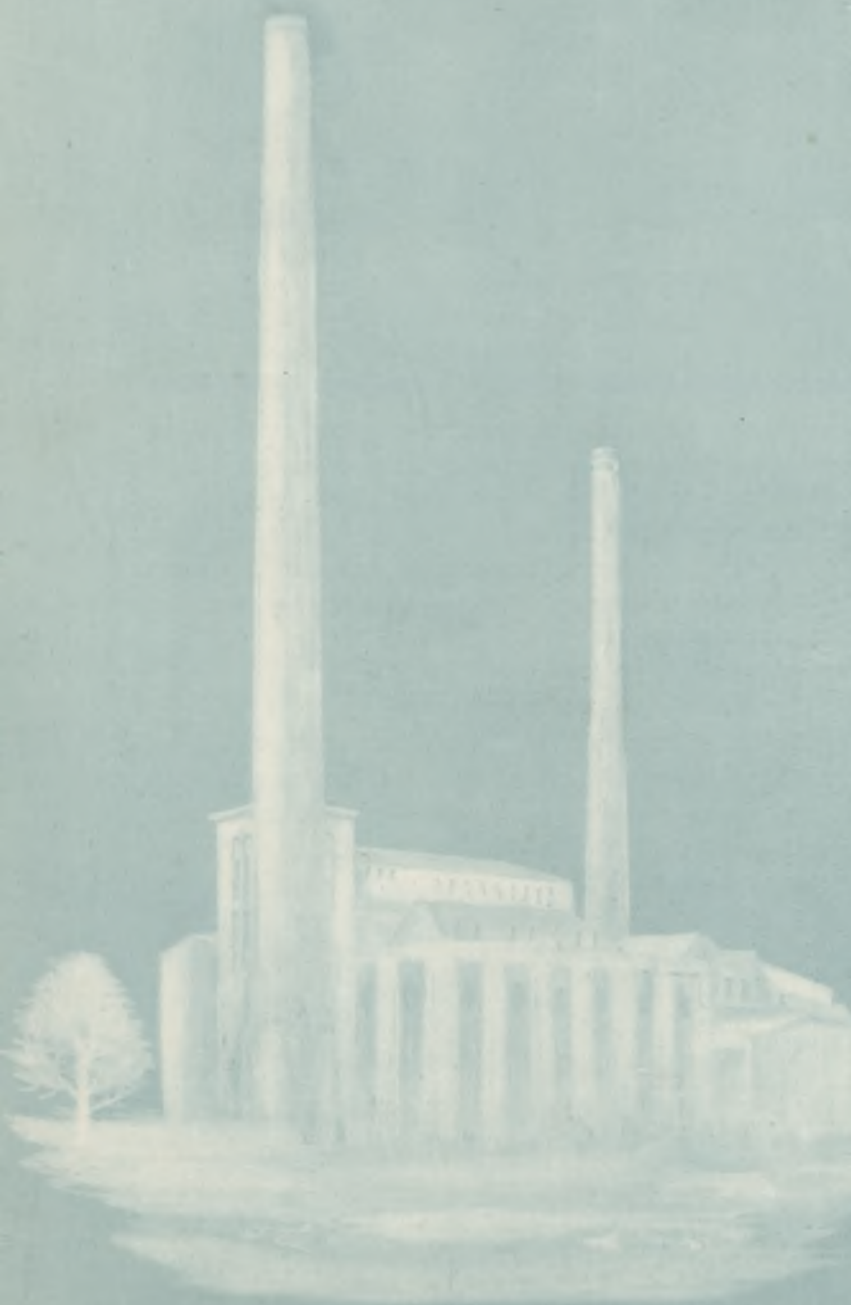
Compressed cubes: in sizes of 22×22×22 mm  
20×20×11 mm  
and 17×17×11 mm

Both cast and compressed cubes are easily soluble and have an agreeable flavour.

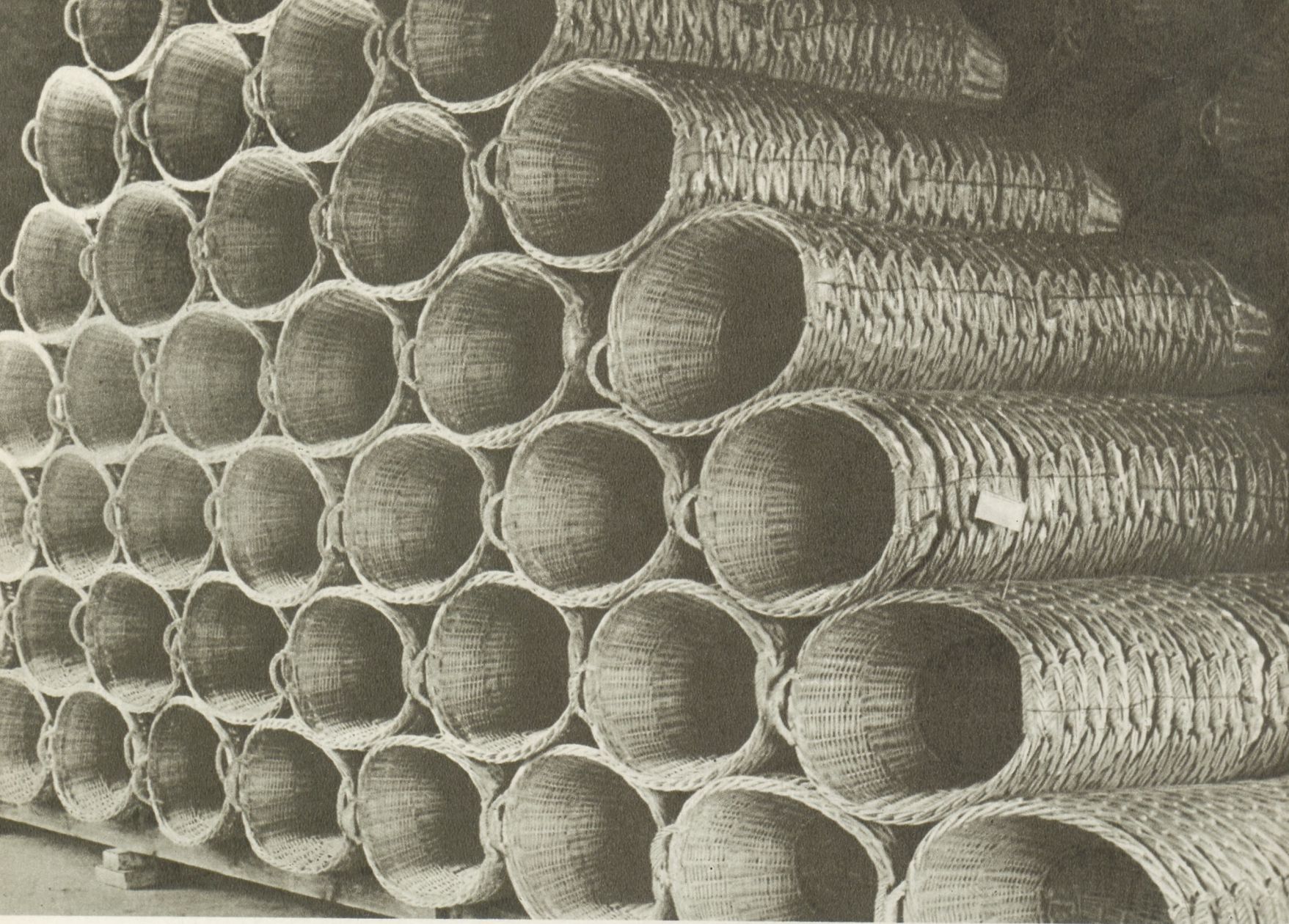
Granulated sugar is packed in jute sacks or, if required by the customer, in paper bags, the latter rapidly coming into favour on account of their strength and neat appearance. Jute sacks hold 100 kg and paper bags 50 kg sugar net. Cube sugar is packed in 50 kg paper-lined wooden cases, or in 25 kg cartons.

All Polish sugar varieties command, as a result of their high quality, a ready sale in foreign markets.

The export of sugar from Poland is in the hands of "Rolimpex", Kopernika 30, Warsaw.







## BASKETWORK

The rise of the Polish basketwork industry dates back, together with exports to foreign markets, to the middle of the 19th century: it was not, however, until after the Second World War, when the State began to take an interest in this trade, that both production and export were systematically developed and given the proper impetus. Polish basketwork soon entered even the most distant overseas markets where it has an established reputation for quality.

The "Made in Poland" stamp on a basket or piece of wicker furniture is a sign of quality, and a guarantee that the goods are made to a definite high standard in material, are flawless in workmanship and serviceable.

Polish baskets are characteristically faultless in finish and of such a high artistic standard as reflects the skill and care of the craftsman. These facts have caused orders from American, United Kingdom, Canadian and continental importers to be received in thousands at a time.

The Polish basket is exceptionally strong, of close weave, and made from sound and strong willow rods of the "Salix Americana" variety. The plaiting and

tracking are carefully finished, so that the basket gives the impression of having been made from one single rod throughout. Careful selection of the rods as to thickness and length suitable for any particular type of basket is of great importance, since it not only ensures to the finished article a neat appearance, but also guarantees long life.

### Particulars

Polish wickerwork comprises some thousands of different types of baskets, items of furniture, caskets and toys in a variety of shapes — perfect in material and workmanship. The range of goods can be divided roughly into the following groups:

1. beaten basketware
2. fancy osier basketware
3. raffia ware
4. bulrush ware.
5. wicker furniture

Each of these groups splits up into dozens or even hundreds of individual items, according to destination and use. The characteristic features of individual groups are outlined below.



### Beaten basketware

This group includes the larger size baskets, made of osier of average length and thickness (length — from 120 to 160 cm). The plaiting is compact and tight — hence the term "beaten basketware". It includes such items as oval, braided, round and rectangular clothes baskets, angular, oval, round, half-round, narrow and triangular baskets for soiled linen etc., — all in a variety of sizes.

Baskets in this group are made chiefly of white willow, but baskets of boiled willow, known as buff willow, brick-red in colour, can be made to special order.

### Fancy osier basketware

This includes all household utility baskets and dog baskets, made mainly in four sizes, though non-standard sizes can be supplied to order. Other goods falling within this group are shopping, fruit and flower baskets, shopping bags with or without handles (oval, round, angular, rectangular), bread baskets, bonbonnières, brush baskets, scale baskets for infants, menage baskets, fish baskets, bassinettes, champagne, dutch, easter and wine baskets, firewood and waste-paper baskets, toy baskets etc. Goods of this class are made, in a range of 1—3 sizes, mainly of buff willow rods from 60 to 100 cm long, according to the purpose for which they are intended. Certain varieties are made of white willow rods. This group offers a particularly wide choice, so that customers have no difficulty in making their selection.

### Raffia ware

Representative of this group are caskets in various shapes and designs, brush baskets, towel racks, newspaper stands, raffia slippers and a wide range of small toys. These goods are made of raffia and osier — osier framework with raffia carefully laced through it. Artistic design and harmonious colour schemes have prompted numerous firms to use raffia caskets as bonbonnières and these, filled with sweetmeats, constitute an attractive selling line.

### Bulrush ware

This group includes bulrush baskets woven round an osier framework and articles made of bulrush only, as for instance shopping bags, beach bags, sun hats, slippers etc. The production of these goods is now in the preliminary stage, and they will shortly be available for export.

The "Made in Poland" mark on a basket or piece of wicker furniture is a sign of quality and a guarantee that the goods are made to a definite standard of high-grade materials, are serviceable and of perfect workmanship. Polish wicker ware reflects the care and high artistic skill of the artisan. Our illustration shows a wicker armchair being plaited in the large basket-making centre of Rudnik on the river San

### Wicker furniture

Polish wicker furniture is no novelty to foreign customers. It has for long been noted for comfort, ingenious design and strength. It includes children's armchairs. "Bar Charbar" and "St. George" type armchairs, settees, tables and stools. Furniture is made with willow rod frames, willow strip and bulrush being used for weaving the sides, backs and seats.

### Manufacturing process and preparation for export

Wickerware is made of American quality willow (*Salix Americana*), white or buff, free from marks made by hail or insects and without the slightest mechanical defect. The willow rods are peeled throughout — of slightly yellowish colour in the case of white, and brick red in the case of buff willow.

White or buff willow tape, natural bulrush and dyed raffia, willow rods and certain auxiliary materials are also used in manufacture. Willow is, to render it more pliable, soaked, prior to being worked up. The method of weaving varies according to the type of goods. In the case of certain types of baskets, a number of coloured willow rods which have previously been dyed are, to enhance the appearance, woven into the basket in the form of strips. Certain baskets, as for instance the Dutch type of basket, are, to special order, given a coat of colourless varnish, or they can be made with a decorative floral border in a variety of colours.

In certain cases the baskets, particularly flower baskets, are silvered or gilt. Manufacture is contingent on wooden models ensuring standardisation of sizes and shapes. Baskets are produced, partly in fac-







graders, and any imperfect piece is rejected as unfit for export. The baskets are, after having been graded, stored in special export warehouses, or are, after being bundled or crated, sent to port. Baskets are provided with a label specifying the catalogue number and each basket is stamped "Made in Poland".

**Export**

The sale of wickerwork is effected on the basis of practice established prior to the war and is subject to customers' acceptance. This applies to the specification of shape, bottom and top dimensions, height and weight of individual items.

**General conditions of sale**

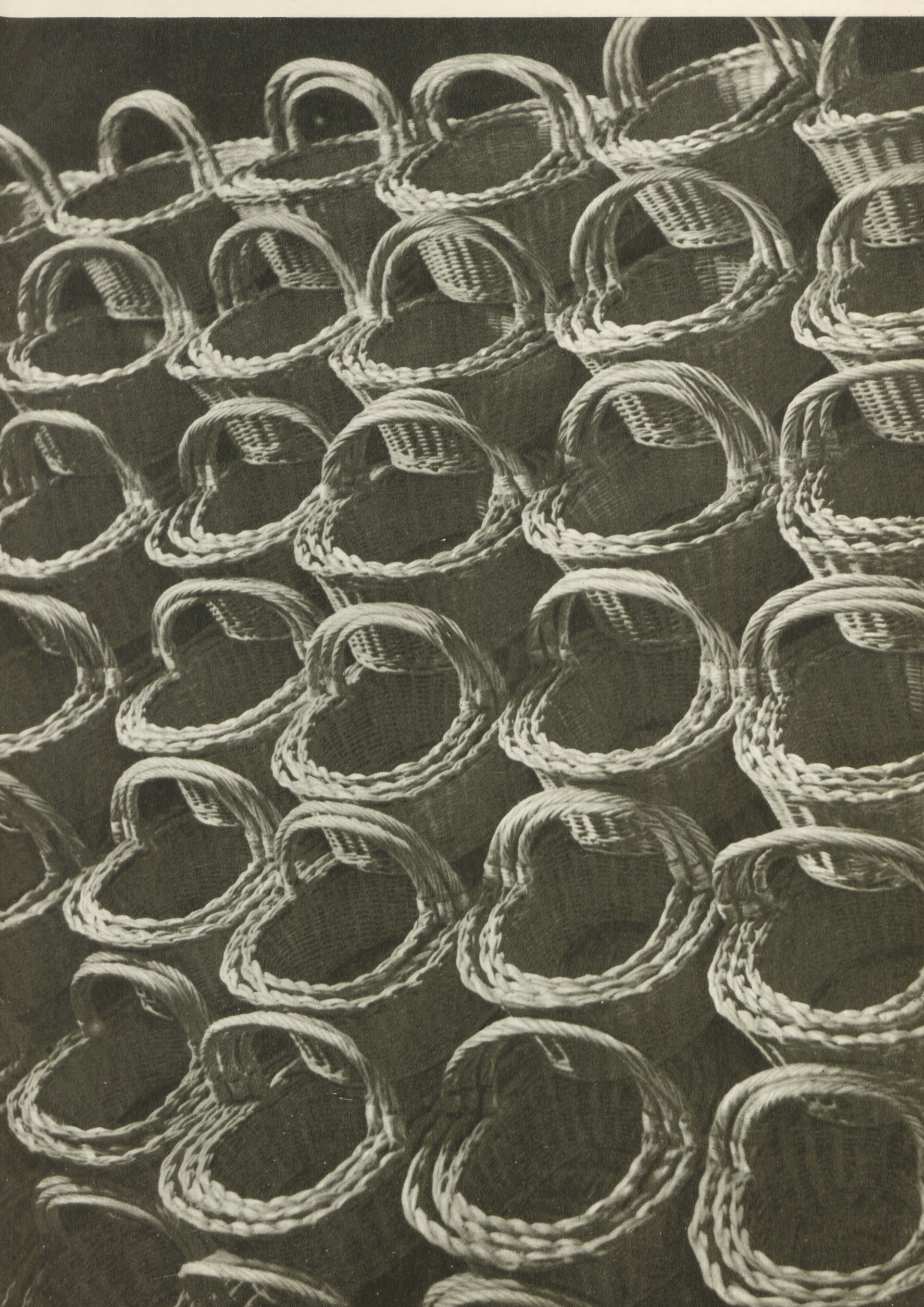
"PAGED" effects sales either through the medium of its representatives abroad, or where no representatives have been appointed — direct. Sales are made on the basis of catalogues or samples. Prices are quoted in the price lists and are in line with average world market prices. Deliveries are contingent on quantity. Average orders, to the value of U.S. dollars 3000—5000, are executed in approximately four weeks. Certain types of baskets are supplied ex-stock and can be delivered within a fortnight. Clothes-baskets are shipped in bundles containing from 1 to 2 dozen each. Fancy basketware is shipped in crates of approximately 1.2 m cubic capacity. The crates are strongly made of wood and contain from 35 to 48 sets of baskets. Items of furniture are bundled in lots of from 2 to 8, or crated, according to size and destination. Clothes-baskets are sold in dozen lots, other baskets — in sets. The most popular set consists of sizes 1 to 3, that is to say, all baskets are made in three progressive sizes — maximum, average and minimum — differing only in dimensions and, invariably, fit inside one another, thus saving shipping space. The bundles or crates are marked in accordance with customers' specifications. A shipping specification of each package is attached to the bill of lading.

tories and partly as a homecraft, in the extensive basket-making centre, well known to the trade, at Rudnik on the river San. This centre employs skilled craftsmen, many of whom have been engaged on the production of export-quality wickerware for some dozens of years. Baskets are, on completion, delivered to purchasing centres where they are subjected to a rigorous selective process by a staff of expert graders who, to ensure that none but the best goods are passed for export, pay particular attention to uniformity of sizes and shapes and to quality of material. This exacting inspection has enabled Polish wickerware to earn its reputation for excellence. Workmanship, not to mention the quality of material, is really most accurate and scrupulous. All likely defects are detected by the

The range of goods specified above is merely a fraction of the basketware produced. Suffice it to say that our production centres supply for export approximately two thousand different types of baskets. Should any of the types regularly offered by us not, whether in respect of shape or design, suit any particular customer's requirements, we are prepared to supply goods strictly to customers' samples, our skilled craftsmen being able to produce any type of basket.

The export of wickerware is in the sole hands of "PAGED" Miodowa 1, Warsaw.







LIST OF POLISH CENTRAL ORGANISATIONS FOR FOREIGN TRADE

Telegrams	Name of organisation and scope of activity	Postal address
ANIMEX Warszawa	"ANIMEX", NATIONAL ENTERPRISE (Independent Liability). Exporters and Importers of Animal Products, Fish and Fish Products	"Animex" Warszawa, Hoża 66/68
BALTONA Gdynia	"BALTONA", NATIONAL ENTERPRISE (Independent Liability) Shipchandlers	"Baltona" Gdynia, Pułaskiego 6
CEBILOZ Warszawa	"CEBILOZ", NATIONAL ENTERPRISE (Independent Liability). Exporters and Importers of Antifriction Bearings	"Cebiloż" Warszawa, Krak. Przedmieście 47/51
CENTROHARTWIG Warszawa	C. HARTWIG Ltd. International Forwarding Agents	C. Hartwig Warszawa, Hibnera 3
CENTROMOR Warszawa	CENTRALA MORSKA, NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Ships and Ship's Equipment	Centrala Morska Warszawa, Hoża 35
CENTROZAP Katowice	"CENTROZAP", NATIONAL ENTERPRISE (Independent Liability) Importers of Plant and Equipment for the Mining and Steel Industries	"Centrozap" Katowice, Plebiscytowa 36
CETEBE Łódź	"CETEBE", NATIONAL ENTERPRISE (Independent Liability). Exporters and Importers of Textiles	"Cetebe" Łódź, Moniuszki 6
CIECH Warszawa	"CIECH" Ltd., GENERAL EXPORT AND IMPORT AGENCY FOR CHEMICALS	"Ciech" Warszawa, Jasna 10
DALOS Warszawa	"DAL" Ltd., INTERNATIONAL TRADING COMPANY Barter and Reexport Transactions	"Dal" Warszawa, Nowy Świat 40
DALSPO Warszawa	"DALSPO", NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Foods, Fats and Edible Forest Products	"Dalspo" Warszawa, Filtrowa 61
DEKABIMEX Warszawa	"DOM KSIĄŻKI", NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Books	"Dom Książki" Warszawa, Nowy Świat 70/72
ELEKTRIM Warszawa	"ELEKTRIM" Ltd., POLISH FOREIGN TRADE COMPANY FOR ELECTRICAL EQUIPMENT	"Elektrim" Warszawa, Sienna 32
HAZAPAGED Warszawa	"PAGED", NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Timber and Products of the Woodworking Industry	"Paged" Warszawa, Plac Trzech Krzyży 18
IMEXFILM Warszawa	FILM POLSKI, NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Films	"Film Polski" Służba Zagranicznego Obrotu Filmów Warszawa, Marszałkowska 56
IMPEXMETAL Katowice	"IMPEXMETAL", NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Metals and Products of the Metallurgical Industry	"Impexmetal" Katowice, Wita Stwosza 7



Telegrams	Name of organisation and scope of activity	Postal address
METALEX Warszawa	"METALEXPORT", NATIONAL ENTERPRISE (Independent Liability) Exporters of Machinery, Metal Manufactures and Electric Materials	"Metalexport" Warszawa, Mokotowska 49
MINEX Warszawa	"MINEX", NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Minerals, Cement, Glass and Ceramics	"Minex" Warszawa, Kredytowa 4
MOTORIM Warszawa	"MOTOIMPORT", NATIONAL ENTERPRISE (Independent Liability) Motor Vehicle Importers	"Motoimport" Warszawa, Mazowiecka 13
PAPEXPORT Warszawa	"PAPEXPORT", NATIONAL ENTERPRISE (Independent Liability) Paper Exporters and Importers	"Papexport" Warszawa, Wspólna 50
PETROL Warszawa	CENTRALA PRODUKTÓW NAFTOWYCH, NATIONAL ENTERPRISE (Independent Liability) Export and Import of Crude Oil and Oil Products	Centrala Produktów Naftowych Warszawa, Rakowiecka 39
POLCARGO Gdynia	"POLCARGO", NATIONAL ENTERPRISE (Independent Liability) Cargo Experts and Supervisors	"Polcargó" Gdynia, ul. Polska 20
POLIMEX Warszawa	"POLIMEX" Ltd., POLISH COMPANY FOR MACHINE IMPORTS	"Polimex" Warszawa, Czackiego 7/9
ROLIMPEX Warszawa	"ROLIMPEX", NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Agricultural Products, Concen- trated Fodder and Sugar	"Rolimpex" Warszawa, Kopernika 30
RUCH Warszawa	"RUCH", NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Newspapers and Periodicals	"Ruch" Warszawa. Koszykowa 31
SKORIMPEX Łódź	"SKORIMPEX", NATIONAL ENTERPRISE (Independent Liability) Exporters and Importers of Raw Materials and Supplies for, and Products of the Leather Industry	"Skorimpex" Łódź, Sienkiewicza 9
TABULATOR Warszawa	"TABULATOR" Ltd. Exporters and Importers of Office Machines and Equipment	"Tabulator" Warszawa, Szpitalna 8
TEXTILIMPORT Łódź	"TEXTILIMPORT", NATIONAL ENTERPRISE (Independent Liability) Importers of Raw Materials and Supplies for the Textile Industry	"Textilimport" Łódź, 22 Lipca 2
VARIMEX Warszawa	"VARIMEX" Ltd., POLISH COMPANY FOR FOREIGN TRADE Exporters of products of Decorative Art and Handicrafts, Christmas-tree ornaments, Household and Toilet Brushes, Artists' Brushes, Buttons, Rubber Goods, Pianos and Gramo- phone Records, Amberware, Postage Stamps	"Varimex" Warszawa, Wilcza 50/52
WĘGLOKOKS Katowice	CENTRALA ZBYTU WĘGLA, NATIONAL ENTERPRISE (Independent Liability) Coal Exporters	Centrala Zbytu Węgla Katowice, Kościuszki 30



