DESCRIPTION OF THE COLLECTIONS OF SCIENTIFIC APPLIANCES INSTITUTED FOR THE STUDY OF MECHANICAL ART IN THE WORKSHOP OF THE IMPERIAL TECHNICAL SCHOOL OF MOSKOW

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649271412

Description of the Collections of Scientific Appliances Instituted for the Study of Mechanical art in the workshop of the Imperial Technical School of Moskow by Various

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

www.triestepublishing.com

VARIOUS

DESCRIPTION OF THE COLLECTIONS OF SCIENTIFIC APPLIANCES INSTITUTED FOR THE STUDY OF MECHANICAL ART IN THE WORKSHOP OF THE IMPERIAL TECHNICAL SCHOOL OF MOSKOW

Trieste

Introduction.

The *Imperial* Technical School of Moscow is a high class Special School principally intended for the education of Mechanical Constructers, Mechanical Engineers and Technical Engineers.

The School consists of two divisions, general and special, each of which has a course of three years. The special division is divided into three branches: Mechanical Construction. Mechanical Engineering and Technological Engineering.

The three years'course of the general division embraces the following subjects: Religion Free hand and Linear Drawing, Descriptive Geometry, General Physics, Zoology, Botany, Mineralogy, Chemistry, Geodesy, Analytical Geometry, Higher Algebra, Differential and Integral Calculations, General Mechanics, Drawing of Machine-parts, the French and German Languages, i. e. all Scientific subjects the previous knowledge of which is required from the pupils of all the three following Branches.

In the special department, the three years'course of the three branches contains the following subjects: Or-

ganic and Analytical Chemistry, Metallurgy, Practical Physics, Mechanical and Chemical Technology, Technics of Wood and Metals, Analytical Mechanics, Construction of Machines, Practical Mechanics. Railway Construction, Engineering and Constructive Art, Projecting and Estimating of Machines, Works and Mills. Industrial Statistics and Book-keeping.

Every one of the appointed sciences is taught fully or in a condensed form, according as it is considered a fundamental or collateral subject of the given branch. The students of all the classes are occupied during a stated time in practical work in the laboratories and mechanical workshops.

The school has also a preparatory division, of three classes, with the same curriculum as the higher classes of commercial schools, and is intended for such pupils as, by any reason whatever, have not been enabled to pass through the full course of the commercial or of the classical schools.

All the pupils are classed as follows:

Foundation Boarders,
Private Boarders,
Day Scholars,
Foreign Hearers.

At present the school contains 100 Foundation Boarders, 200 Private Boarders, 150 Day Scholars and 136 Foreign Hearers, in all 586 pupils.

The annual charge is, —

for Boarders	225	dollars,
Day Scholars	75	» »
Foreign Hearers	55	» »

Admission into the School as boarder or day scholar is obtained by competitive examination, in accordance with the ordained programme.

Pupils who have passed through the full school course of the Gymnasiums may be admitted without further examination to the lectures of the second general class of the School, but pupils of the last class of the Gymnasiums, who have not passed their final examination, are admitted only to the first general class of the School.

The pupils wear the appointed half-military uniform.

Pupils who have obtained in the school the appointed grades receive acknowledged rights in the service of the government.

The School is maintained by funds from the following sources: percentage on funded capital *), fees of private boarders and foreign hearers, and profits received from the Mechanical Works.

The annual receipts of the School amount to 160000 doll.
» annual expenses » » » » 140000 »

The Technical School is under the immediate patronage of ***Their Imperial Majesties.***

---

*) The School capital amounts to about 2030000 dollars.

Superior: ***His Imperial Highness Prince Peter of Oldenburg.***

Honorary Curator: Prince ***Sergey Obolensky-Neledinsky-Meletsky***, Master of the Horse and Actual Councillor of State.

Honorary Members of the *School Council*: ***His Imperial Highness*** the Grand Duke ***Konstantine Nicolaevitch***, ***His Imperial Highness*** Prince ***Leichtenberg***, Count ***Strogonoff***, Academician ***Chebisheff***, General ***Selony***, ***Peter Kotchubay***, and Councillor ***Goubonin.***

Director of the School: ***Victor Della-Voss***, Actual Councillor of State.

Inspector: Councillor ***Katsaouroff.***

Professors:

Higher Mathematics: ***Letnikoff*** (Doctor of Mathematics of the Moscow University and Leipsic University).

Practical Mechanics: ***Orloff*** (Magister of Mathematics).

Construction of Machines: ***Lebedeff*** (Magister of Applied Mathematics).

Chemical Technology: ***Kossoff*** (Magister of Technology) and ***Arkhipoff*** (Doctor of Technology).

Constructive and Enginering Arts: ***Panaieff*** (Civil Engineer).

Projecting of Machines and Works: ***Aeschlimann*** (Technical Engineer).

General Chemistry: *Akhmatoff* (Magistrand).

General and Applied Physics: *Vladimirsky*.

Technology of Fibrous Material: *Dmitrieff* (Technical Engineer).

Docents: Analytical Mechanics: *Joukoffsky* (magistrand).
Analytical Chemistry: *Porjesinsky* (magister).

Tutors: *Michaleffsky*, *Davidoffsky*, *Weidengammer* (Engineers).

Head of Laboratorie: Doctor *Reiman*. His Adjuncts. *Duboffsky* and *Zimmermann*.

Assistants: *Malesheff* (Mechanical Engineer) and *Romanenko*.

Masters:

Religion: Priest *Slavsky*, Pastor *Kettler*. Russian Language: *Vinogradoff*. Lower Mathematics: *Joukoffsky*, *Chirkoff*. Linear Geometry: *Michaleffsky*. French Language: *Clavel*. German Language: *Bick*. Geography: *Brizgaloff*. Natural History: *Mishaeff*. Book-Keeping: *Psistcheff*. Drawing: *Bajenoff*. Plans of Details of Machines: *Ganss*. Free hand Drawing: *Tourchaninoff*. Statisticks: *Fuchs*. Singing: *Orloff*. Gymnastics: *Kriloff*.

Auxiliaries to Instruction. The School possesses a special library containing more than six thousand volumes of works on Specialities, a cabinet of physics, two chemical laboratories, a cabinet of mechanical models, a cabinet of natural history, an extensive mechanical works with separate smithy and foundry, and also school workshops.

Almost the whole of the collections exhibited by the School at the exhibition of Philadelphia are immediately connected with the school workshops and we shall therefore endeavour to give a few details concerning the latter.

No one will deny that a close acquaintance with hand labour, and, in general, practical experience in mechanical works, are matters of the utmost importance to every engineer *). The drawings of an engineer thus trained will always be distinguished by solidity and that practical judgment which is the result not only of the study of scientific truths, but also of the acquirement of a certain familiarity in their application to practice. That the knowledge of hand labour is of extreme importance to a young man, devoting himself to technical activity, and that it is considered an absolute necessity to him, we are convinced by the circumstance, that the greater number of the polytechnical schools of western Europe demand from the students, who enter them, either a previous stay, of a certain duration, at some works of industry, or issue to them a diploma, attesting their accomplishment of the course, after they are in position to show, that they have been occupied practically for a definite period at some such works on their leaving the school.

If we contemplate the matter itself more profoundly and acquaint ourselves more closely with the circum-

*) We speak here of Mechanical Engineers and Constructers.

stances of the practician at private works and mills, we must, disregarding exceptional cases, since it is not they who form the rule, arrive at the sad conclusion, that a young man, desiring to acquire practical experience in a short time and without the aid of an experienced guide, loses, at a private works, nine-tenths of his whole time entirely unprofitably. As we are at present addressing persons well acquainted with this matter we do not consider it necessary to bring forward arguments in support of our statement. The practical information, acquired in a works by a young man, entering a polytechnical school, is very inconsiderable and therefore does not possess the desired significance.

Such information is, on account of its defectiveness, of little assistance in promoting the study at school of Practical Mechanics, the construction of Machines or the drawing up of plans and estimates for mills and works.

A young man on leaving a polytechnical school should endeavour to carry on his practical education; should fix upon some mill or works in which, being, in the majority of cases of course, left to his own initiative, he may find place and opportunity for his further self-education.

At this moment, so critical in the career of the youthful engineer, the insufficiency of material resources is the cause that the majority take service, at a very low rate of remuneration, as draughtsmen in the drawing office of a mechanical works, or in the drawing offices of railway companies; others more fortunate enter a works in the quality of artizans; but even they are hard-