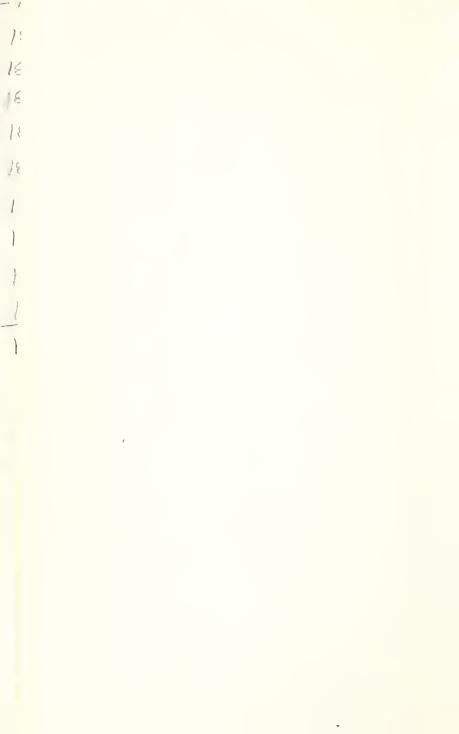


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THE
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AND
School of Industrial Art,
PHILADELPHIA.

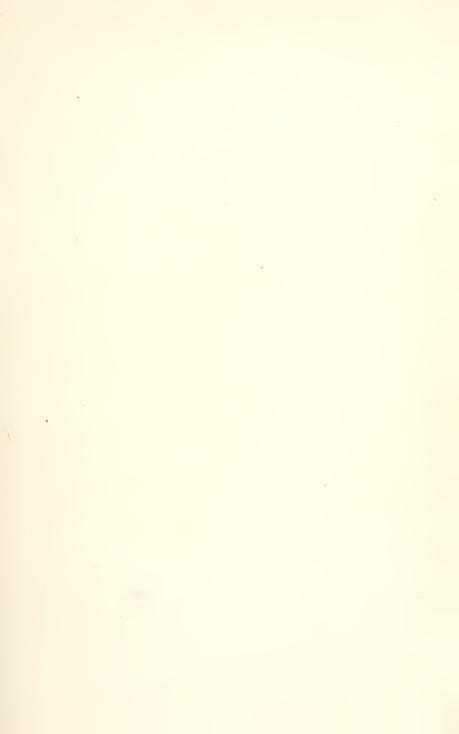
## Circular

OF THE

# Committee on Instruction 1892-93.

CLASS-ROOMS:
1336 Spring Garden Street,
PHILADELPHIA.
1892.





LABORATORY OF CHEMISTRY AND DYEING-TEXTILE SCHOOL.

THE
Pennsylvania Museum

AND
School of Industrial Art,
PHILADELPHIA.

## Circular

OF THE

## Committee on Instruction 1892-93.

CLASS-ROOMS:
1336 Spring Garden Street,
PHILADELPHIA.
1892.

"The objects of this School, its results and its capabilities for good in the future, should enlist and retain the sympathy and support of all progressive and liberal-minded citizens."

GOVERNOR PATTISON.

"Of all the work of this kind which I have inspected thus far, nothing has interested me as much as the work of this School."

#### HENRY HITCHINGS,

Director of Drawing in the Public Schools of Boston,

"It is an institution which is destined to reflect, to an increasing extent, credit upon its promoters and upon the State, and it represents more directly perhaps than any other single agency that could be pointed out, the most powerful influences which are being exerted to-day in shaping the industrial destiny of the commonwealth."

From a Special Report on this School in

the Report of the Secretary of Internal

Affairs of Pennsylvania for 1888.

"Nothing that I have yet seen has impressed me so much as the work of this School."

## PRESIDENT ATHERTON OF STATE COLLEGE,

CHAIRMAN OF THE PENNSYLVANIA COMMISSION ON INDUSTRIAL EDUCATION,

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MRS. JOSEPH HARRISON.

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From Mass. Normal Art School and School of the Boston Museum of Fine Arts.

Vice-Principal,

HOWARD F. STRATTON,

Graduate (1882) of the Pennsylvania Museum and School of Industrial Art.

Professor of Sculpture, EDMUND A. STEWARDSON, Pupil of Chapu.

Lecturer on Water-Color Painting, CHAS. E. DANA, Pupil of Luminais.

Instructor in Instrumental Drawing and Architectural Design,

JULIAN MILLARD,

From Mass. Institute of Technology and Instructor at University of Pennsylvania.

Instructor in Applied Design,

MYRTLE D. GOODWIN,

From the Pennsylvania Museum and School of Industrial Art.

Instructor in Applied Design—Evening Class,
PAUL ROSENZWEY,
From l'École des Arts et Métiers, Paris.

Instructors in Drawing Classes,

PAUL LACHENMEYER,

Graduate (1891) Pennsylvania Museum and School of Industrial Art.

HELEN A. Fox,

Graduate (1892) Pennsylvania Museum and School of Industrial Art.

FLORENCE FETHERSTON. ELIZABETH M. HALLOWELL.

Instructor in Modeling,

MARY ELLEN SLATER.

Graduate (1889) Pennsylvania Museum and School of Industrial Art.

Instructor in Carving,

AMORY C. SIMONS.

Instructor in Stained-Glass Work,
MARIA L. HOLT.

Secretary,

Leonora J. C. Boeck.

#### FACULTY OF TEXTILE SCHOOL

#### Director,

E. W. FRANCE.

Graduate of the Pennsylvania Museum and School of Industrial Art.
Formerly of Conshohocken Woolen Mills.

Assistant Director and Instructor in Textile Design,

BRADLEY C. ALGEO,

Graduate (1892 Pennsylvania Museum and School of Industrial Art.

Instructor in Weaving and Related Branches,

WM. ROEBUCK.

Formerly with Sevill Schofield, Son & Co., Philadelphia.

Instructor in Chemistry and Dyeing,

Conyers B. Finckel,

Graduate (1888) of the Pennsylvania Museum and School of Industrial Art.

Instructor in Freehand Drawing, Design and Color Harmony,

MYRTLE D. GOODWIN,

From the Pennsylvania Museum and School of Industrial Art.

Instructor in Applied Design-Evening Class,

PAUL ROSENZWEY.

From l'École des Arts et Métiers, Paris; Designer of 18 years' experience with Eddystone Manufacturing Co.

#### THE PHILADELPHIA TEXTILE SCHOOL.

In our last issue we referred, and that but briefly, to this institution, for want of time to consider the subject as fully as it deserved. To say that the school presented every evidence of being a live, wide-awake affair, fully up to our expectations, considering the limited means afforded Mr. Search to carry on the enterprise, is an inadequate way to present the subject.

The truth is that everybody who has been in any way connected with this work, either directly or indirectly, is astonished with the results. Ever since the organization no pains have been spared to make it a success; no teacher has ever advanced a practical idea without having funds advanced to put it into successful operation; no piece of machinery has been called for in vain, and no expense spared to obtain instructors of the best kind. The result is an enthusiasm among teachers and pupils rarely witnessed.

The recent transfer of the school to larger quarters has been accomplished under rather extraordinary circumstances, the whole time of fitting up and transfer being accomplished within six weeks, and in time for the opening of the fall sessions. Mr. Search practically gave his whole time to the work, and the teachers were called in from their vacations and cheerfully gave their services. The transformation was sudden and complete, the finishing work being accomplished by the introduction of several new looms, which enabled the school largely to increase its facilities for imparting practical instruction.

The first day the school opened every seat was taken, and more looms are now being built preparatory to admitting new pupils, of which there are several registered for first vacancies.

The dyeing school is unique in its way, being fitted up with regular vats and with drying-room and steam-pipes.

Carding and spinning of wool is being introduced, and, through the kindness of Mr. Charles A. Furbush, the school expects to be equipped with a full set of cards, with all the preparatory and spinning machinery necessary fully to develop the work.

All pupils are required absolutely to prepare all the material for the loom, which means, first, the yarn to be used; second, the design into which it is to be formed; third, the drawing of the warp, and fourth, the weaving, and in the latter course all the dyeing must be done by the student himself. The result is that the student is certain to obtain more practical information in these lines in one years work at the school than in three years ordinarily in the mill itself, and, besides this, he gets much instruction not to be obtained without the aid of a teacher, except by years of costly experience. The school is now able to refer to its former pupils for recommendation. The good work done by them in its behalf is now bearing fruit in the shape of large numbers of pupils from the New England States, New York, New Jersey, Delaware, Ohio, Michigan and Mississippi, nearly all of whom have been recommended by our graduates who are now engaged in active work in these localities.—The Manufacturer.





Design by Florence C. Fetherston, a Pupil in the School.

#### THE PENNSYLVANIA MUSEUM

AND

#### SCHOOL OF INDUSTRIAL ART.

#### HISTORICAL SKETCH.

The Pennsylvania Museum and School of Industrial Art was incorporated on the twenty-sixth day of February, 1876, for the purpose, as stated in its charter, of establishing "for the State of Pennsylvania, in the City of Philadelphia, a Museum of Art in all its branches and technical applications and with a special view to the development of the Art Industries of the State, to provide instruction in Drawing, Painting, Modeling, Designing, etc., through practical schools, special libraries, lectures and otherwise."

The purpose of the institution as thus defined is distinctly industrial. The collections at Memorial Hall, where the Museum is located, embrace examples of art work of every description; but as the city already possessed, in the Pennsylvania Academy of the Fine Arts, an institution devoted to the advancement of the Fine Arts, it was determined by the founders to make the collections of the Pennsylvania Museum

as largely as possible illustrative of the application of Art to industry, and the instruction in the School has constant reference to a similar purpose.

The institution owes its origin to the increased interest in Art and Art Education awakened by the Centennial Exhibition of 1876.

Pending the incorporation of the institution, a fund of \$25,000 was subscribed with which to make purchases at the Exhibition. In the selection of objects, the trustees had the benefit of the advice of the foreign commissioners to the Exhibition, and, in several instances, the institution was the recipient of valuable gifts from individual exhibitors. Around the nucleus thus formed, the Museum has grown by purchase, gift and bequest to its present proportions, numbering in its collections upward of ten thousand objects.

The major part of the collection of the products and manufactures of British India, shown at the Centennial Exhibition, was presented to the Museum by the British Government at the close of that Exhibition. It occupies the whole of the west corridor at Memorial Hall.

The Moore memorial collection of objects of Art, presented to the Museum by Mrs. Bloomfield-Moore as a memorial of her late husband, occupies the entire east corridor. It contains exquisite examples of Lace, Embroidery, Fans, Jewelry, Pottery and Porcelain, Metal Work, Enamels, Carved Work in Ivory and in Wood, Tapestries and Pictures.

The Museum also possesses several smaller collections, sufficiently complete in themselves to be regarded as fairly representative of the departments to which they belong. Of these the Caspar Clark collection of Persian Metal Work, the Vaux collection of Etruscan Pottery, and the Fulgence collection of Textiles are perhaps the most important.

In addition to its actual possessions, the Museum is constantly receiving accessions in the form of loans of a more or less permanent character, by which the element of freshness is secured, and popular interest in the collections continually renewed.

The purpose of the School is to furnish such instruction in Drawing, Painting, Modeling, Carving and Designing as is required by designers, superintendents and workmen in the various Constructive and Decorative Arts, and to serve as a Training School for teachers of these branches.

It was opened during the winter of 1877–78 in temporary rooms in Industrial Art Hall, at Broad and Vine Streets. It was afterward removed to the rooms of the Franklin Institute, at 15 South Seventh Street, and again in 1880 to the building 1709 Chestnut Street, where it remained until its removal, in 1884, to the building which it now occupies. The Textile School was opened in an annex to the main building, erected for its occupancy in 1885, and the School of Chemistry and Dyeing was opened at 1346 Spring Garden Street in 1887. Both Schools were removed in 1891 to 1303–1307 Buttonwood Street, where they are located at present.

Up to the time of the removal to Spring Garden Street the work of the classes was confined to the general courses in Drawing, Painting and Modeling, with constant regard to the needs of the industries, it is true, but without attempting to provide instruction in any of the occupations themselves.

The necessity of affording facilities for such technical instruction, however, became apparent very early in the history of the School. It was seen that only by familiarizing the students with the processes and industrial applications of design could the proper direction be given to such purely artistic training as the School had to offer.

The Committee desires to call special attention to the work accomplished by the Department of Weaving and Textile Design.

## ESTABLISHMENT OF THE DEPARTMENT OF WEAVING AND TEXTILE DESIGN.

The Philadelphia Association of Textile Manufacturers was formed in 1882, and among the objects for which it was specially created was the fostering of technical education. Its members represented the progressive element of the manufacturing community of Philadelphia and vicinity. These gentlemen were fully aware of the progress of technical schools for the Textile Arts in Germany, France and England, and were persuaded that the United States could not hope to maintain the best market for her products unless

those products combined the highest skill in manufacture and the best taste in design. At that time no thorough school existed in this country, and it was necessary to begin at the foundation of the work, without previous knowledge of the exact methods to be adopted, or the means to be employed to reach the desired end.

It was apparent that considerable money must be raised to properly lay the foundation for a successful school. The sum of \$50,000 was fixed upon as the minimum amount with which to inaugurate the work, and the Association endeavored to obtain this sum from the manufacturers of Philadelphia by subscription; but, as with every public-spirited enterprise, a few leading men and firms bore the burden of the work, and the subscriptions finally closed at \$35,000, all of which was subscribed with the understanding that no calls should be made unless the entire \$50,000 was secured. The sum was never reached, and the whole enterprise seemed likely to be abandoned.

At this juncture Mr. Theodore C. Search, who had been actively engaged in the effort to raise the \$50,000, despairing of success in that direction, concluded to assume the responsibility of attempting the work without the aid of any subscriptions.

The project was made known to the Trustees of The Pennsylvania Museum and School of Industrial Art, who very kindly placed rooms in their school building at his disposal, without charge. Teachers were engaged, two Jacquard looms were ordered, and a night class of enthusiastic students organized in 1883. The outfit was necessarily limited, but was increased without delay, as experience showed the needs to be supplied. Only men of acknowledged skill were engaged as teachers, a fact which greatly assisted the projectors of the enterprise, and won for the School the confidence of the community.

After the School had been in operation for a few weeks, the fact of its actual existence became known to Mr. William Arrott and Mr. Thomas Dolan, who specially requested that they might divide the burden of its expense with Mr. Search, and at once joined in the work. Matters thus rested while the School made most active progress.

Some time afterward, at a meeting of the Philadelphia Textile Association, the School project was again discussed, and the Association decided that it would be wise to sustain the enterprise, and recommended the subscribers to the \$50,000 fund to turn over the amount of their subscriptions to its use.

Nearly \$30,000 out of the original \$35,000 was transferred in this way; twenty-five per cent. of which was authorized to be paid in for the use of the School in cash. These subscribers were as follows:

Thomas Dolan & Co \$5,000 00	John Bromley & Son \$1,000 00
# 3 /	
John & James Dobson 5,000 00	Thomas L. Leedom 1,000 00
William Wood & Co 2,500 00	James Doak, Jr., & Co 500 00
William Arrott 2,000 00	Charles Spencer & Co 500 00
John Yewdall . 2,000 00	Andreas Hartel 250 00
Fiss, Banes, Erben & Co. 2,000 00	S. B. M. Fleisher 250 00
Conyers, Button & Co. 1,500 00	Grunby Bros. & Campion 250 00
George & James Bromley 1,000 00	H. W. Butterworth & Sons 250 00
Alexander Crow & Son 1,000 00	Stead & Miller 100 00
James Smith & Co 1,000 00	
M. A. Furbush & Son 1,000 00	\$28,100 00

The following season, President Wm. Platt Pepper, of The Pennsylvania Museum and School of Industrial Art, undertook to raise funds for the erection of a building for the use of the School. He succeeded, within a very few days, in securing the amount needed; the building was completed in time for the new school year.

The leading manufacturers of machinery responded very generously to an appeal to supply the institution with the very best machinery; and the evening class of 1884–85 was progressive and enthusiastic, acknowledging the great benefit they derived from their connection with the School.

In September, 1885, the instructors were regularly engaged to give their whole time to the School, and a day class was organized specially to prepare young men for the higher departments of the work, by means of a regular course of instruction, extending over a period of three years.

The season of 1885–86 was prosperous, and proved conclusively that such a school must not only be a great addition to a manufacturing community like Philadelphia, but an element of strength to the whole country. Friends of the enterprise visited the best schools of Europe in the interest of this

institution, and whenever methods were found superior to our own, they were unhesitatingly put into practice, until to-day the management feel that they are entirely ready to supply the want that has so long been pressing on the country.

It is no longer incumbent upon anyone to visit Europe for technical instruction in Textile Art, as this School is fully prepared to supply technical information on all subjects connected therewith: Designing, Weaving, Dyeing, Cleansing of raw materials, all being provided for, as shown by the curriculum.

Indeed, in several important respects the superiority of the School over any of its European rivals is acknowledged. These advantages are of two kinds. First, the association of the technical instruction with artistic culture is more direct and complete than in any European school whose mission is so distinctly technical as this. Pupils of the Pennsylvania School are provided with opportunities for carrying their individual work to completion in a much more liberal manner than is allowed in the European schools, where the rule is to arrange the work of the weaving-rooms; to grade the work required by the Course; to adjust all machinery; to make all warps, etc., at the beginning of the year, a few designs only being selected from among all those produced by pupils, to be executed during the year, the students passing from one loom to another, assisting with the weaving and other technical processes involved, at first in those that are simple, and then in the more complicated, but still without any work being consecutive in the case of any individual student, and without any direct relation between the work executed and his own In the Pennsylvania School, on the other hand, the individual student has an opportunity to work out his own designs in the fabric. Every step in the process of production, from the first sketch to the finished product, is his own work. The advantages of this method are not only apparent to any intelligent observer, but ample testimony to its efficiency has been furnished by pupils who have attended some of the best European schools before coming here, and who cheerfully testify to the superiority of the Pennsylvania School.

#### A GREAT STEP FORWARD.

A visit to the Pennsylvania Museum and School of Industrial Art, at 1336 Spring Garden Street, shows that the management has been extremely active during the past year. Not only has the interior of the building been thoroughly overhauled and redecorated, but the exterior shows equally marked improvements.

The first point of notice to the visitor is the great office changes that have been made. This part of the School was formerly located in a small and comparatively dark room, but is now situated on the first floor of the main building, and has been fitted up in a style that speaks well for the work carried on in the institution.

A fine Art Library has been added to the School, with tables and chairs which make it a pleasure to investigate the works of the famous authors that are to be found there. The walls are hung with appropriate works of art, and altogether an artistic air pervades this part of the establishment.

The partitions that formerly existed in the second and third stories of the building have been removed and the two rooms thrown into one, making very large, light and airy classrooms. The walls and ceilings have been tinted in an artistic manner, and the painting of the woodwork is made to match, giving the whole a cozy, comfortable and artistic working atmosphere.

The cloak-rooms and private box rooms, for each pupil, have been arranged in separate rooms on opposite sides of the building, so that the halls are no longer encumbered with closets and other cumbersome materials.

The partition in the fourth floor, which was placed there for the benefit of the Textile School, has been removed, and the whole of that floor thrown open to the uses of the Lecture-Room.

The vacation of the annex by the Textile School has made that building available for the uses of the Art School. The first floor of this building has been assigned to the modeling class of the Art School, and has been fitted up with especial reference to its welfare. The room is thoroughly

lighted, and the walls are adorned with the best models for the development of this work.

The second floor of the annex, formerly occupied by the hand-looms, is now entirely devoted to the teaching of drawing and designing for the Textile Department, and to the other practical industrial departments of the Art School; such as designing for oil-cloths, wall-papers, and all trades where surface decoration forms the chief feature.

In the room adjoining, on the same floor, may be found the wood-carving department, filled with tables, each one having a full and complete set of wood-carving tools. The work in this department supplements the work done in the modeling department, and it is here, with mallet, chisel and gouge, that the pupil reduces to practical work the ideas which have previously been thoroughly developed in the modeling department, until he finally exhibits a duplicate of the figure in wood which had previously been formed by him in the clay.

As might be expected, the work done here has an industrial value, every piece being designed to finally enter into the composition of some useful or ornamental piece of furniture.

In the room above may be found the Stained-Glass Department. This is a new department of the school work which was established last year, and is under the charge of one of the graduates of the institution. The work done is of that practical kind which is intended for actual use, the orders being received by the School and the objects constructed in this department. Some really meritorious work may be seen adorning the walls of this room, all of which was made here.

Among the orders for Windows executed last year were the following: Stained-Glass Window, for Mr. S. G. Flagg, 1731 Wallace Street; Stained-Glass Window for M. E. Parsonage, Park Avenue; Stained-Glass Window for Mr. Bush, 1006 Spruce Street; Stained-Glass Doors for Mr. Thos. Barlow, Germantown; Memorial Window, M. E. Church, Freelenica, Del.; Memorial Windows, Presbyterian Church, Rutledge, Pa.

The balance of the main building on Spring Garden Street is occupied with the classes in Drawing and Coloring. Notwithstanding the School has so greatly enlarged its facilities, it is even now taxed to accommodate the pupils that have

ROOM FOR MODEL DRAWING AND STUDY OF ORNAMENT FROM CASTS.



applied. The entries for the first night in the Textile Department exceeded the limits of preparation that had been made for them, and several applications are now upon the books waiting to be placed. The Art Department has likewise received large accessions to its numbers, far beyond that of previous years.

The Textile School, which formerly occupied the annex built especially for it, has been removed to the new building located at 1303, 1305 and 1307 Buttonwood Street, and now occupies the second, third and fourth floors of that building. These rooms are fifty feet in width and ninety-two feet deep, extending from Buttonwood Street to Whitehall Street, and are lighted on all sides.

The third floor is entirely devoted to machinery for textile manufacture, and presents a most remarkable show. In the front of the building may be seen thirty-one handlooms arranged with mathematical precision, each lighted by a gas jet and each showing a workman-like finish that could only be seen in machinery of the best manufacture. The rear of this floor is filled with power looms and with Jacquard looms, all of the latest and best makes, well calculated to produce the fabrics of fine texture and intricate patterns with which the Philadelphia public have grown somewhat familiar of late years, by inspection of the work-shows at the annual commencements, all of which were designed and made by the students themselves.

With the facilities in this department now placed at the disposal of the students, more skillful work by them, than any heretofore shown, may confidently be expected at future commencements.

The fourth floor is devoted mainly to the class work of the School and to the Dyeing and Chemical Department. The fixtures of a complete dye-house may be seen here, and a Chemical Department fitted up in the most thorough manner. Each student possesses a complete chemical outfit with which he can pursue his investigations under the care of the teacher and at his leisure. No other department of the School is fitted up with greater care and with closer attention to details than this. The management recognize

that instruction in this department must be one of the great elements of future success.

The balance of the floor is occupied with accessories to manufacturing, such as the making of warps and drawing of the same into the harness preparatory to placing into the looms. In the class-room, which is admirably lighted both for day and evening work, are to be found elegant charts to assist the teacher in conveying his thoughts to the pupils and enabling them to get a comprehensive grasp on the work under consideration. These charts are new and were built up under the care of the teachers during the last vacation by last year's graduates of the School. They are models of neatness in drawing, mounting and coloring, and their influence on the School cannot be otherwise than most exhilarating.

#### LOCATION.

The Art School is located in the building 1336 Spring Garden Street, which has been purchased by the Trustees with funds provided for this purpose by the Associate Committee of Women, and adapted to the needs of the classes in the most thorough manner. Ample provision has been made for the comfort of students, and every convenience furnished that will facilitate the work of the classes.

The work in each department or class is carried on in a room by itself, so that the annoyances and interruptions inseparable from the assembling of large classes and different grades of work in a common room are avoided.

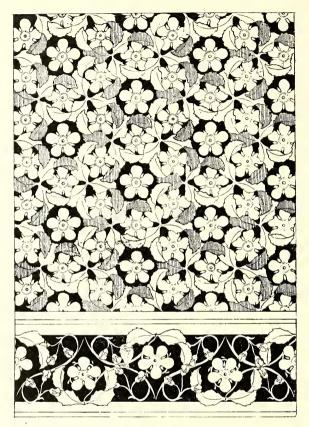
The building contains a Lecture-Room; a Library and Reading-Room; two rooms for Elementary Work from casts and models; a gallery for Advanced Work from the cast; one for Painting and one for the Life Class; a room for the Grinding and Preparation of Colors; one for the Work in Applied Design; one for Modeling; one for Wood-Carving; and a suite of rooms for the Class in Stained-Glass Work. The Textile School and the Chemical Laboratory and Dye-House are located at 1303-1307 Buttonwood Street. (Described on page 21).

#### THE ASSOCIATE COMMITTEE OF WOMEN.

The School is under the immediate supervision, and receives the active support, of the Associate Committee of Women, who act conjointly with the Board of Trustees in managing the affairs of the Pennsylvania Museum and School of Industrial Art.

This Committee now numbers thirty women, each and all zealously active in promoting the best interests of the corporation, with especial reference to the creation and support of such an Industrial School in connection therewith as those most competent to judge of the educational needs of the city have long desired to see established here.

The Committee was organized in 1883, and it has (besides greatly increasing the list of members, by whose subscriptions the Institution is largely supported) paid over since that time to the Trustees some thirty thousand dollars for carrying on the work of the School and advancing the interests of the whole Institution.



Elementary Design by Grace H. Pollock, a Pupil in the School.

SCHOOL YEAR.

The next School year of thirty-six weeks begins on Monday, October 3, 1892, and ends June 10, 1893. The evening classes open on Monday, October 10, and close April 8. There is a vacation of one week at Christmas. The School is also closed on the Friday following Thanksgiving Day, and on Washington's Birthday, Good Friday, Easter Monday and Decoration Day.

#### HOURS OF STUDY—DAY CLASSES.

The hours of study for the day classes are from 9 o'clock to 1, and from 2 to 4 every day in the week except Saturday.

#### EVENING CLASSES.

Evening classes in all the branches are in session from October until April, on Mondays, Wednesdays, Thursdays and Fridays, from half-past 7 to half-past 9 o'clock. Thursday evening in each week is devoted to lectures.

# REQUIREMENTS FOR ADMISSION.

Applicants for admission are expected to be as proficient in the common English branches as the completion of the Grammar School Course would imply. It is also desired that pupils should be fairly well grounded in a knowledge of free-hand drawing; but proficiency in this branch is not required as a condition for admission, and pupils who are deficient in this respect will be given an opportunity, and furnished with every facility, for making up such deficiency. Students in the Textile School must also pass an examination in Arithmetic (through percentage).

#### SCHOLARSHIPS.

In consideration of an annual appropriation to the School by the Legislature of Pennsylvania, each county in the State is entitled to one free scholarship in any department of the School for the full course of three years. These appointments are made by the Governor of the State, usually on the recommendation of the County Superintendent of Schools.

Five free scholarships are also competed for annually by pupils from the advanced classes of the grammar schools of the city of Philadelphia. Application for admission to this competition should be made through the Principal of the School from which the applicant comes to the Board of Public Education, 713 Filbert Street.

A certain number of free scholarships have also been provided by the bequest of Mr. Joseph E. Temple and by gifts for this purpose by Mrs. Susan R. Barton and Mrs. William Weightman, Jr. These are awarded by the Committee on Instruction, after satisfactory evidence of the applicant's ability and earnestness of purpose has been furnished. The scholarships are not granted for partial or special purposes, but only to those who expect to attend a full regular course, requiring an attendance of at least three years in some one department

of the School. Written applications, stating fully the qualifications of the applicants, and the grounds on which the application is based, should be sent to the Principal on or before October I.

#### MATERIALS FOR STUDY.

Instruments and materials for study must be provided by the students. All articles required in any class are for sale at the School at less than retail prices, and students are expected to purchase them here. The cost is usually about \$12.00 per year for a day student in the Art School and \$15.00 in the Textile School; for the additional expense in this last, see page 58. The expense need not exceed \$5.00 a year for students in the evening class.

Each student is provided with a locker, in which drawing-boards and materials are to be placed before leaving the class-room. On receiving the key the student must deposit fifty cents, which, when the key is returned, will be refunded, provided the return is made within one month after the date on which his term expires; otherwise the deposit will be forfeited.

Students will be furnished with facilities for working at the Museum in Memorial Hall when this is desired.

# BOARD.

Good board may be obtained in the vicinity of the School for from \$4.50 a week upward. A list of desirable boarding-houses is kept at the School, and will be furnished to the student on application.

# EXAMINATIONS.

Examinations are held semi-annually, in January and May, on the results of which, taken in connection with the quality of the work done in the class-room and regularity of attendance, the standing of students is made to depend.

Monthly reports of attendance and standing are made to parents and guardians, and students whose progress is shown by these reports to be unsatisfactory for three months in succession will not be allowed to continue their studies in the School

#### DISCIPLINE.

The discipline of the School is made as simple as possible, and students are made to feel that as the requirements are definitely stated, and the instruction in each branch given at well-known hours, the progress of each is substantially in his own hands.

All students, however, are expected to be prompt and regular in their attendance on all the exercises and lectures of their Course, and irregularity in this respect will be regarded as sufficient reason for dismissal. Schedules showing the arrangement of classes and the hours to be given by the instructors to each are posted in the class-rooms. Students must observe these schedules and may not claim the teachers' attention at other hours.

Polite and orderly conduct is also insisted upon at all times, and any damage to School property must be made good by the student causing it. No book, chart or other educational appliance will be allowed to leave the building under any circumstances.

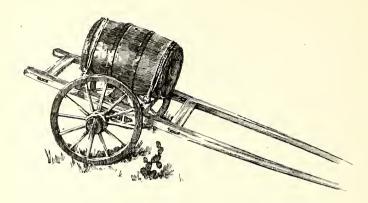
All work must be put away before the student leaves the building. Lost articles may be inquired for of the janitor. Students are requested to give prompt notice of change of address.

Conversation should be avoided during hours of study, and loud talking or laughing under any circumstances is prohibited. Pupils must not wander through the rooms or lounge about the seats of other pupils. They are appealed to for the preservation of order and neatness in the class-rooms.

# EMPLOYMENT FOR GRADUATES.

The School does not undertake to find places for graduates, but applications for teachers and designers are constantly being received by the Principal, and students desiring employment are requested to notify him to that effect.

No pupil, who has not spent at least one year in the School, will be recommended for a position either as teacher or designer.



Water Cart from the India Collection in the Museum at Memorial Hall, from a Penand-Ink Drawing by Vernon H. Bailey, a Pupil in the School.

# ART SCHOOL.

#### COURSES OF STUDY.

The general course of study embraces Drawing and Painting in water-colors, from models, casts, draperies and still life; Lettering; Plane and Descriptive Geometry; Projections, with their application to machine construction and to cabinet work and carpentry; Shadows, Perspective, Modeling and Casting; Practice in the use of Color, with special reference to the needs of designers; Historical Ornament, study from the Living Model and Original Design. The Instrumental Drawing is taught by means of class lessons or lectures, and lectures are also given on Anatomy and Historical Ornament, upon which examinations for certificates are based.

#### GRADUATE COURSE.

Graduates from the full course as outlined above may continue in the School for advanced study without payment of fees, on condition that they devote a certain amount of time to teaching in the School, or to other work, for the promotion of the interests of the Institution.

#### TEACHERS' COURSE.

This course is arranged for the benefit of those who, while unable to devote as much time to the work of this School as would be required to complete the full course covered by the certificate, are yet desirous of properly qualifying themselves, either to teach drawing in elementary schools or to make a good use of the blackboard in teaching other branches.

Especial attention is paid to this last consideration, and classes in blackboard work, under the personal instruction of the Principal, meet every Tuesday afternoon for just such practice as is particularly desired by kindergartners and primary school-teachers.

#### COURSE IN WOOD-CARVING.

Pupils who do not wish to take the full course in Modeling and Carving, can take Carving alone as a Special Course. This work is thoroughly practical in its character, and is intended to familiarize the pupil with the methods of the shop and to enable him to occupy at once a position as a workman considerably in advance of any which he could expect to fill without this preliminary training.

# COURSE IN STAINED-GLASS WORK.

This course has been established to furnish pupils an opportunity to acquire a knowledge of the beautiful art of working in colored glass amid associations which alone can give to its practice that character to which it is certainly entitled among the crafts. It is taught not merely as a trade, but as an art, and the student who learns to do not one branch alone, as is usually the case, but all branches, also learns to produce beautiful original effects, as well as to do accurate and well-finished work.

# PREPARATORY COURSE.

A preparatory course is arranged for pupils who are not sufficiently advanced in their studies to enter the Regular Course.

#### LECTURES.

Lectures on the Anatomy of the Human and of Animal Form, as applied to Decorative Art, on Harmony of Color, Water-Color Painting and related subjects are given throughout the year.

Class instruction in the Geometrical branches is given every Tuesday evening and every Wednesday morning, and lectures on Original Design, on Art History and on Perspective are given by the Principal every Monday morning from 11 o'clock to half-past 12. All first-year students are expected to attend these lectures.

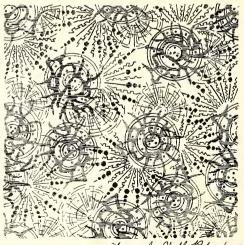
Lectures on Color Harmony and on Anatomy are given Fridays from 12 to 1 o'clock. Mr. Dana's lectures on Water-Color Painting are given on alternate Fridays from 10 o'clock until 1.

Occasional Lectures on Miscellaneous Subjects are given throughout the year. Those given last year were as follows:

The Homes of Queen Elizabeth's Courtiers, by Mr. H. Bloomfield Bare. Illustrated.

The Architecture of Imperial Rome, by Mr. Frank Miles Day. Illustrated.

Athens and its Memories, by Mr. Walter Price. Illustrated.



Veign for Hall Paper (general Willem & Grammore Fresh Prize 189. Gran Gatherine May





Elementary Design by Frances L. Farrand, a Pupil in the School.

# SUBJECTS OF STUDY.

# INDUSTRIAL DRAWING.

CLASS A.

# EXERCISES.

# FREEHAND DRAWING.

- (1) Drawing of Ornament from casts in charcoal, pen-and-ink and crayon.
- (2) Model drawing in charcoal, pen-and-ink and crayon.

- (3) Drawing of Pieces of Furniture, Chairs, Tables, etc.
- (4) Studies of Drapery in crayon, pen-and-ink, wash, etc.
- (5) " Objects of Industrial Art from the Museum.
- (6) " "Flowers and Foliage from Nature, in charcoal, pen-and-ink and water-color.
- (7) Lettering.
- (8) Analysis of Plants for the purposes of Design.
- (9) Elementary Designs from natural forms.
- (10) Studies in Historic Ornament, especially the designing, in the different styles of work which can be executed in the School; Architectural Ornament, Furniture, Cabinet Work, Pottery, Glass, etc.
- (11) Design from natural and from historical motives of Ornament as applied (1) to flat surfaces and (2) to curved surfaces, such as Pottery, etc.

#### INSTRUMENTAL DRAWING.

- (12) Exercises with instruments (construction of plane figures, line shading, Geometrical Design, etc.).
- (13) Plans and elevations of buildings and machinery.
- (14) Descriptive Geometry (intersections and developments, shades and shadows).
- (15) Perspective.

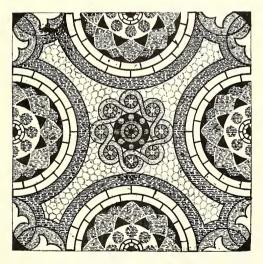
# EXAMINATIONS.

- (1) Plane Geometrical Drawing.
- (2) Projections.
- (3) Shadows.
- (4) Perspective.
- (5) Model Drawing.
- (6) Drawing from Memory.
- (7) Historical Ornament, a written paper, illustrated by sketches.

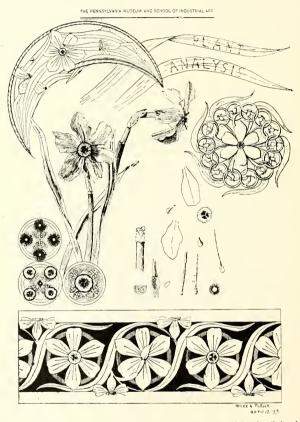
(This class attends lectures once a week on Instrumental Drawing and once a week on Perspective, on the Principles of Design, on Historical Ornament, or some other subject directly related to the work of the classroom.)

Instead of the course in Instrumental Drawing, as described above the evening, class pursues a course in Archi-

tectural Drawing, including a study of the Orders, Perspecspective, and Shades and Shadows, lessons in which are given every Tuesday evening; and all pupils of the School, whether entered in the day or evening classes, may attend without extra charge. The Frederic Graff Prize of \$25.00 for Architectural Design, is offered for competition to pupils in this course.



Oil-Cloth Design by Clara Müler, a Pupil in the School.



Sheet of Plant Analysis, by Grace H. Pollock, a Pupil in the School.

# DECORATIVE PAINTING AND APPLIED DESIGN.

CLASS B.

#### EXERCISES.

- (1) Enlargement and reduction of colored ornament, from Plates having a historical interest and from Actual Fabrics, Carpets, Wall-Papers, etc.
- (2) Grinding and Preparation of Colors.
- (3) Studies in Color Harmony, consisting of Simple Designs treated in different schemes of color.
- (4) Studies from the Living Model in the Advanced Drawing Class.
- (5) Exercises with Instruments. Drawing of Geometrical Patterns from Plates and Fabrics. (For students who have not taken the Certificate of Class A.)
- (6) Studies of Plants and Flowers from Nature, in water-color.
- (7) Studies of Groups, Draperies, etc., in water-color.
- (8) " " Objects of Industrial Art from the Museum in water-color.
- (9) Original Designs for Carpets, Rugs, Curtains, Upholstery Goods, Wall-Papers, Oil-Cloths, Linoleum, Lace, Embroidery, etc.
- (10) Designs and execution of Painted Decoration, including Practice in the cutting and use of Stencils.

# EXAMINATIONS.

- (I) Time Sketch in water-colors of flowers or a group of objects.
- (2) Exercises in Color Harmony, in water-colors.
- (3) Paper on the Origin and Chemistry of Pigments.
- (4) " Principles of Design in Surface Decoration.

- (5) Description of Lithography, Engraving and Etching. Porcelain and Pottery Decoration, Fresco Painting, Mosaic Work, Inlays, Colored Glass Work.
- (6) Study from the Living Model.

(This class attends the lectures on Anatomy, on Harmony of Color, on the Chemistry of Pigments, on Historic Ornament, and on Principles of Decorative Design.)

The course described above is the full course prescribed for those who are working for the Diploma of the School. For those who prefer to devote themselves more exclusively to the work in industrial design, the following modified course has been arranged, on the completion of which a special certificate is awarded.

# SPECIAL COURSE IN APPLIED DESIGN.

#### EXERCISES.

- (1) Grinding and Preparation of Colors.
- (2) Studies in Color Harmony.
- (3) Enlargement and Reduction of Colored Ornament from Plates, etc., and from Actual Fabrics.
- (4) Geometrical Design.
- (5) Flower Painting from Nature, in water-color.
- (6) Plant Analysis and Conventionalization.
- (7) Original adaptations of natural forms and historical motives to the decoration of flat and of curved surfaces, as of pottery forms, and to different methods of execution, as by Printing, Stamping, Stenciling, etc.
- (8) Designs for Stained-Glass work, including Tracing, Pattern cutting and the execution of Cartoons.
- (9) Original Designs for Ginghams and Dress Goods.
- (10) Designs for Oil-Cloth, outlining and coloring for Linoleums, Line and Pin Patterns.
- (11) Wall-Paper, Chintzes, Cretonnes, Printed Silk, etc., length and width of repeats, number of colors used and their practical application.

Modeling Room.



- (12) Body Brussels, four, five, and mixed frame; difference between Body Brussels, Tapestry Brussels, Wilton, Axminster and Moquette carpets.
- (13) Chenille, Smyrna Rugs, etc., Curtains, Table Covers.
- (14) Upholstery Goods, Petit Point, Brocatelles, Satin-face fabrics.
- (15) Ingrain Carpets, weaves used in producing different effects, (a) four or more colors in warp and filling, (b) two colors in warp and filling. Each student is expected to weave one Ingrain carpet design, including the cutting and lacing of the cards.

# EXAMINATIONS.

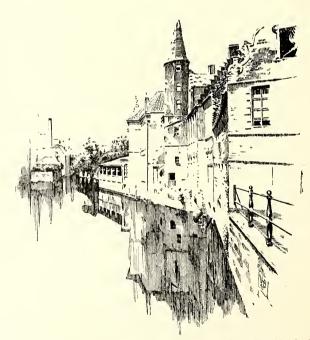
- (1) Time Sketch in water-colors of flowers or a group of objects.
- (2) Exercises in Color Harmony, in water-colors.
- (3) Paper on the Origin and Chemistry of Pigments.
- (4) Paper on Principles of Design in Surface Decoration.
- (5) Description of Lithography, Engraving and Etching, Porcelain and Pottery Decoration, Fresco Painting, Mosaic Work, Inlays, Colored Glass Work.

(This class attends the lectures on Harmony of Color, on Historic Ornament, and on Principles of Decorative Design.)

The work of the class-room is supplemented by visits to industrial establishments in the neighborhood, and accounts of these visits are expected from every pupil.



Pen-and-ink Drawing from Photograph by Vernon H. Bailey, a Pupil in the School.



Pen-and-ink Drawing, from Photograph, by Vernon H. Bailey, a Pupil in the School.

# DECORATIVE SCULPTURE.

CLASS C.

# EXERCISES.

#### IN CLAY.

- (1) Studies of Ornament from casts.
- (2) " Details of Human Figure from casts.
- (3) " Animal from casts.
- (4) " " Ornament from prints and photographs.
- (5) " the Living Model, in advanced Drawing Class.
- (6) Wood-Carving and Plaster work.
- (7) Original Designs for Ornament in Terra Cotta.
- (9) Designs for Work in Cast or Wrought Metal.
- (10) Designs for Furniture or Cabinet work with carved enrichments.
- (II) Diploma Work. A piece of Decorative Sculpture either in relief or the round.

#### EXAMINATIONS.

- (1) Paper on Principles of Designs as applied to Sculptured Objects.
- (2) Time Sketch in Clay of Ornament from cast or print.
- (3) Paper on Anatomy of the Human Figure.

(This class attends the lectures on Animal Anatomy, on the Principles of Constructive and Decorative Design, and on Historical Ornament.)

# ADVANCED DRAWING CLASS.

This class is for the thorough study of the figure from the cast and from the living model. Students are admitted only after completing the courses described on pages 31 and 35, or, in the case of those who do not desire to complete the course, or who have received their preliminary training in other institutions, on passing a satisfactory examination in drawing the human figure, either from life or from the cast. The class works from the draped model, and each pose is arranged with as much reference to the study of historical costume and beauty of decorative effect, as of the figure itself.

This class is under the personal instruction of the Principal.

# TEACHERS' CLASS.

(For those employed as Teachers in either Public or Private Schools.)

#### EXERCISES.

#### FREEHAND WORK.

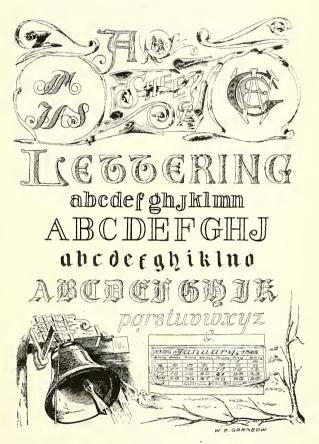
- (1) Drawing of Ornament from the cast.
- (2) " from models.
- (3) "Pieces of Furniture, as chairs, tables, etc.
- (4) Foliage from Nature.
- (5) Analysis of Plants for the purpose of Design.
- (6) Elementary Design.
- (7) Studies of Historic Ornament.
- (8) Applied Design.
- (9) Drawing from Dictation.
- (10) Modeling, with special reference to the work of the Kindergarten.

# INSTRUMENTAL WORK.

- (11) Plane Geometrical Drawing.
- (12) Elements of Projection.
- (13) Elements of Perspective.

# EXAMINATIONS.

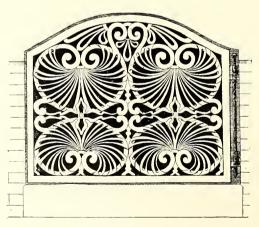
- (1) Model Drawing.
- (2) Drawing from Dictation.
- (3) Plane Geometrical Drawing.
- (4) Elements of Projection.
- (5) Elements of Perspective.
- (6) Drawing on the Blackboard.



Specimen Sheet of Lettering, by Wm. E. Granzow, a Pupil in the School.



Chair and Table in Mahogany, designed and executed by Pupils of the School.

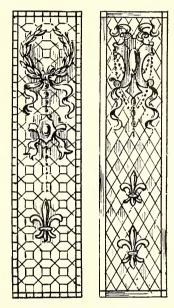


Bronze Grill, designed by Louis Shultz, a Pupil in the School.

# CARVING CLASS.

#### COURSE OF STUDY.

- (1) Selection, Sharpening and Care of Tools.
- (2) Bosses and Scrolls from Casts and Models.
- (3) Intaglios and Mould Sinking.
- (4) Ornament from Prints and Drawings.
- (5) Original Designs for Panels, Carved Enrichments for Furniture and Cabinet Work, Picture-frames, Easels, etc.



Stained-Glass Work, designed and executed by Pupils at the School.

# CLASS IN STAINED-GLASS WORK.

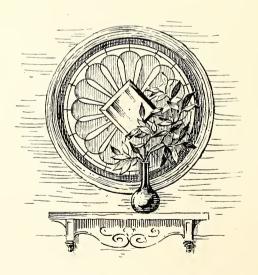
# COURSE OF STUDY.

- (1) Selection and Care of Tools.
- (2) Tracing from Cartoons.
- (3) Pattern Cutting.
- (4) Glass Cutting.
- (5) Lead Glazing.
- (6) Painting in Vitrifiable Colors and Glass Enamel.
- (7) Etching on Glass.
- (8) Glass Mosaic.

# CERTIFICATES AND DIPLOMAS.

Students completing satisfactory exercises in the enumerated Subjects of Study in Class A (see page 31) will be eligible for the examinations which are held at stated times during the year, and on passing the examinations will receive the certificate. Pupils who, having received the certificate, also complete the courses in Decorative Painting and Decorative Sculpture, will receive the diploma of the School. All works executed by pupils are regarded strictly as exercises, not as results, and students will practice the several kinds of subjects until the work required can be performed with facility in a reasonable time.

At least one specimen of every student's work in each class will be retained by the School.



#### FEES.

All fees are payable in advance, and money once paid will in no instance be refunded except by special action of the Committee. The fee for the day class is \$40.00 a year. Students entering for less than a year pay at the rate of \$8.00 a month.

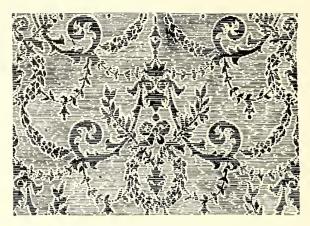
The fee for the evening class is \$10.00 a year.

The fee for the teachers' class is the same as that for the evening class.

#### PRIZES.

The following prizes are awarded annually at the close of the School year:

- President's Prize.—A set of instruments and materials of the value of \$25.00, offered by the President for the best set of drawings executed by students in the Course in Industrial Drawing.
- Frederic Graff Prize.—Of \$25.00 for Architectural Design, competed for by students of the evening class alone.
- Associate Committee of Women's First Prize.—Of \$20.00, awarded by the Associate Committee of Women for the second best set of works in the Course of Industrial Drawing.
- Associate Committee of Women's Second, Third and Fourth Prizes.—Of \$10.00 each, offered by the same Committee for work in Original Design.
- Ripka Prize.—Sketching Outfit for best decorative work in color. Offered by Ripka & Co., Philadelphia.
- First Richards Prize.—Portfolio of Etchings offered by Mr. F. DeBourg Richards for best work in pen-and-ink.
- Second Richards Prize.—Of the same character, awarded for the same class of work.
- Wilson & Fenimore Prizes.—First Prize, \$15.00; Second Prize, \$10.00. Offered by the firm of that name for designs for wall-paper.
- Maddock Prizes.—First Prize, \$20.00; Second Prize, \$10.00.
  Offered by Thomas Maddock, of Trenton, N. J., for designs for pottery.



Carpet. Designed and woven by William Wolfensberger, a Pupil of the School.

# TEXTILE SCHOOL.

#### ADVISORY COMMITTEE.

The Advisory Committee of Manufacturers gives this School its constant supervision, so as to direct its effort into the most practical channels. They provided the funds for placing the School in its present location, and feel largely responsible for its success. This Committee consists of the following members, all of whom are recognized as being among our foremost manufacturers:

Theodore C. Search, of Erben, Search & Co.; William Wood, of William Wood & Co.; Thomas Dolan, of Thomas Dolan & Co.; Joseph Bromley, of John Bromley & Sons; William H. Grundy, of William H. Grundy & Co.; Howland Croft, of Howland Croft, Sons & Co.; James Doak, Jr., of James Doak, Jr., & Co.; George C. Hetzel, of George C. Hetzel & Co.; Charles Furbush, of M. A. Furbush & Son.

The School has moved to its new quarters, and now occupies the second, third and fourth floors of the new building at Thirteenth and Buttonwood Streets. Each room is ninety by fifty feet and contains 4,500 square feet, making a total

Weaving Room—Hand Looms.



floor space of 13,500 square feet. The third floor is completely filled with machinery of the best character, consisting of thirty-one hand-looms of the most approved construction. Each of these looms carries 30 harness, and is capable of producing any woven fabric that can be made on the very best Knowles or Crompton looms. These machines were designed by our own instructors and made by Messrs. Schaum & Uhlinger especially for this School, and it is safe to say that better ones cannot be found. In addition to this are four Jacquard hand-looms, also made especially for the School.

The Power Loom Department consists of:

1 48-in. Knowles worsted loom, pick and pick, 30 harness.

1 48-in. Crompton loom, pick and pick, 27 harness.

I 40-in. Knowles Gem loom, pick and pick, 16 harness, with multiplier.

1 30-in. Knowles Cam loom, for ginghams, 7 boxes.

1 40-in. Thos. Wood loom, for suitings, 16 harness.

1 33-in. Thos. Wood roller loom.

1 36-in. Whitin loom, with 400 Stafford Jacquard.

I 36-in. Stafford loom, with double-acting dobby for gauze, etc.

I 72-in. Knowles heavy-frame upholstery loom, Uhlinger double-lift Jacquard.

I 70-in. Bridesburg loom, with Halton double lift, double-cylinder Jacquard for table-covers, etc.

Murkland ingrain carpet loom.

1 36-in. Schaum & Uhlinger loom, with automatic swivel attachments for weaving silk spots on dress goods, etc.

There are also all the necessary machines for spooling and winding yarns, and a cop-winder for carpet yarns.

The Card-Cutting Department is well equipped, possessing American and French Index cutter and a Schaum & Uhlinger Power card-cutter. The student is required to cut his own cards and thoroughly familiarize himself with every detail pertaining to the production of the finished goods.

The Chemical Department is fitted up with admirable thoroughness, and occupies a room fifty by twenty feet, excellent light being furnished by side windows and Monitor roof windows. Desks for a class of thirty-six, each with its own gas jet and water supply, make it one of the most

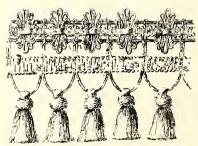
convenient working-rooms that could be devised. A smaller room adjoining is fitted up with copper dye-tubs heated with steam, of regulation depth, thus giving practical possibilities that we have heretofore never possessed. Here the student will be directed by competent instructors, and he will practically work out the problems which he has before experimentally tried at his desk with his own group of small color-vessels. Every facility is furnished for testing the materials used in dyeing, and experiments in fixing color on all fibres are constantly under way.

All the colored material used in the School is dyed in the Laboratory and Dye-House, and in the Second and Third Years of the Course the coloring is done by the students themselves.

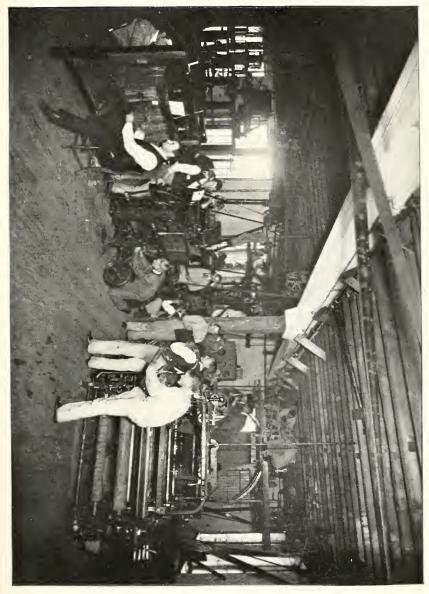
The Course of Study is one of the most thorough that can be obtained anywhere. It is a matter of business from beginning to end, and pupils are taught to feel that they are preparing themselves for the work of life, and that thoroughness is the one feature that counts for the most in the great struggle.

The discipline is of that character which makes duty pleasant, and not a burden. Indeed, the work is rendered so fascinating that the pupils find their greatest pleasure in being busy working out the problems which so intimately concern their future life.

Full and complete instruction is given in Designing for all kinds of loom work, and every step of the pupil's progress is carefully watched and made a matter of record. No rough or slovenly work is permitted, but all is done in the most exact and accurate manner.



Sample of Trimmings designed and woven by Pupils of the School.





#### COURSES OF STUDY.

The general course of instruction embraces the Theory of Textile Designing and its practical applications to the art of weaving and related branches—scouring, bleaching and dyeing of yarns and materials. In addition, chemistry is taught with special reference to the needs of the different branches of the textile industries.

The course of instruction extends over a period of three years, and is especially adapted to meet the wants of those desiring to study cloth manufacturing, designing of textiles, weaving and dyeing. The course is intended to give the student a thorough scientific and practical knowledge of these subjects. (For partial Textile Course, see page 58).

#### LECTURES.

Lectures are given on the different materials used in the textile industries, such as wool, cotton, silk, mohair, jute, flax, etc., their source, chemical and physical structure of the fibre, the action of chemicals on the different fibres, and their affinity for the various dye-stuffs.

Having studied the raw materials, the different processes by which they are converted into yarns, such as sorting, cleansing, carding and spinning of wools, mixing, opening, carding, drawing and spinning of cotton, etc., are taken up systematically.

# DYEING.

In connection with the department of dyeing, there is a laboratory fitted up in the most complete manner with apparatus and chemicals for carrying on experimental work, as well as for the practical applications of scientific principles to the art of dyeing. The students work in a small dye-house and learn, in a practical way, not only the art of dyeing, but also how the yarns are scoured and bleached. From time to time, the class visit the large dye-houses to be found among the many large manufacturing establishments in and around Philadelphia, and view the methods of carrying out their student-work on a large scale.

## SPECIAL COURSE IN DYEING.

For those who desire to take up the course of dyeing alone, a special course is arranged, the student spending the greater portion of his time in the laboratory at practical work.

#### WEDNESDAY EVENING LECTURE COURSE.

During the past year this Course of Lectures has been of the most interesting character. Lectures have been given by practical men directly connected with the Textile Work. The subjects considered were "Mill Economy," by Theodore C. Search; "The Evolution of the Factory System," by S. N. D. North, Secretary of the National Association of Woolen Manufacturers, Boston; "Mill Construction," by Francis W. Whiting, President of New York Board of Fire Underwriters.

These lectures are free to students. A similar course will be one of the features for 1892 and 1893.

# SUBJECTS OF STUDY.

# FIRST YEAR—THEORETICAL WORK.

General principles of the structure of fabrics. Warp and filling. Explanation of the term, "The Weave," and methods of representing the same on squared designing paper. Classification of Weaves. Foundation and Derivative Weaves. Plain Cloth and the methods of ornamenting it. Methods and rules for constructing the various twill and satin weaves. Influence of the twist of the yarn on the appearance of the cloth.

Explanation of Drafting. Rules for preparing Drawingin Drafts and Chain Drafts from weaves. Reducing weaves to their lowest number of harness. Calculating the number of heddles required for fancy and straight drawing-in drafts.

Various weaves whose foundations are either the Plain, Twill, or Satin weave. How they are constructed. The various kinds of cloth to which they are adapted. Circumstances which make it more advantageous to use one class of weave

than another. Weaves which are suitable for different classes of fabrics in contrast to weaves for particular classes.

Weave Combination. Points to be considered in making a combination weave. Consideration of the texture in placing one weave with another. Weaves which take various amounts of filling. Weaves which take up the warp at different rates. Combining weaves to form stripes and checks.

# EFFECT OF COLOR ON THE WEAVE.

How the manner of dressing the warp and of introducing the colors of the filling affect the appearance of the weave. One-and-one and two-and-two system. Utility of the one-and-one system on common weaves. Two and two and four and four applied to fancy weaves. Irregular patterns of two shades.

## YARN CALCULATIONS.

Grading yarns with regard to size. Explanation of the various standards for Cotton, Wool, Worsted, Silk and Linen Yarns. Finding the equivalent counts of yarns in different systems. Determining the counts of a thread composed of two or more threads. Ascertaining the counts of a thread to twist with a known thread to produce a required count, etc. Calculations as to weight and cost of warp. Calculations as to weight and cost of filling.

# CLOTH ANALYSIS.

Ascertaining the Weave, Drawing-in Draft and Chain Draft. Ends per inch and picks per inch. Dressing of warp and arrangement of filling. Determining the "Take-up" of warps in weaving. Determining the counts of warp and filling yarns from sample. Ascertaining weight and cost of warp per yard of cloth woven. Ascertaining weight and cost of filling, per yard of cloth woven. Determining the position of the colors of the warp on the drawing-in draft.

# CLOTH PRODUCED BY USING AN EXTRA FILLING.

Figured effects produced by floating the extra filling on the face. Figures produced by so stitching the extra filling.

as to produce light and dim effects. Single-faced and double-faced fabrics produced by the use of an extra filling. Extra filling for adding weight to a cloth.

# CLOTH PRODUCED BY USING AN EXTRA WARP.

Single-faced fabrics produced by using an extra warp. Double faced fabrics produced by an extra warp. The use of an extra warp for figuring on the face of a fabric. Increasing the weight of a cloth by means of an extra warp. Heavy Worsteds and Woolens, etc. Proper method of stitching the back warp to the face. Effect of improper stitching. Imperfect cloth resulting from the same.

#### INSTRUMENTAL DRAWING.

Construction of Plane Geometrical figures. Geometrical Designs. Projections. Machine Drawing.

## FREEHAND DRAWING AND COLOR WORK.

Grinding and Preparation of Colors. Matching of Colors from printed goods, woven material or yarns. Arrangement and coloring of designs in stripes, plaids, etc. Sketching in Charcoal of figures, flowers and conventional forms, to be executed on the Jacquard machine.

# FIRST YEAR—PRACTICAL WORK.

In the weave-room the work of the First Year Class is executed on small hand-looms, having a capacity of thirty harness. They are especially suited to the course of instruction as laid down, being capable of adaptation to almost any class of work.

Each student has the exclusive use of one of these looms, and after having laid out his design and performed all the necessary calculations, proceeds with the various operations of Warping, Beaming, Drawing-in, Reeding, Adjusting the Warp in the Loom, Chain Building, etc.

While performing all the detail necessary to the production of the woven fabric, the necessity of care and judgment is constantly impressed on the student. The class

of work embraces a variety of goods produced from cotton, wool and worsted, and is laid out so as to coincide with the theoretical instruction given at the time, and thus strengthen it in the mind of the student.

# SECOND YEAR—THEORETICAL WORK.

The value of a knowledge of Double Cloth.

Method of constructing Double Cloth Weaves, and of indicating them on designing paper.

Double Cloths having the proportion of threads in Warp

and Filling, as follows:

One face—one back.

Two face—one back.

Three face—one back. Also the following proportions:

WARP.

FILLING.

One face—one back.
Two face—two back.
Two face—two back

Two face—one back.

One face—two back.

Structure of Double Plain Cloths.

Rules for stitching Double Cloths together, in order to form a perfect fabric.

Effect of improper stitching on the face of the fabric.

Productions of regular patterns upon the face of the cloth by means of the stitching.

Reversible Cloths—Plain.

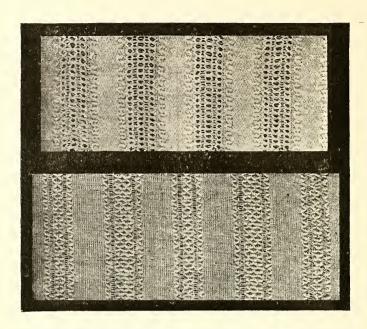
Reversible Cloths—Figured.

Relation of the pattern of each cloth to facilitate stitching. Figuring with two cloths.

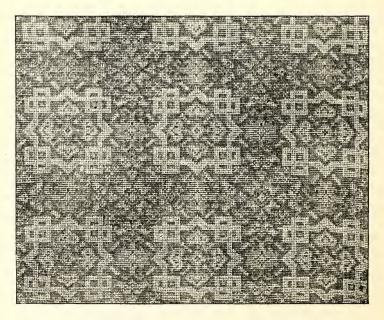
Cloths of the same quality, but different patterns.

Cloths of the same patterns, but different quality.

Patterns formed on Double Cloths by means of binding. Worsted Coatings, Checks, Stripes, Quilts, etc.



Examples of Gauze Weaving. Designed and woven by Thomas Stone, a Pupil in the School.



Upholstery Goods in Four Colors. Designed and woven by Wm. E. Bond, a Pupil in the School.

### PILE FABRICS.

### THEIR CLASSIFICATION.

Filling Pile.—Construction of Velveteens, Corduroys, Chinchillas, Whitneys, Chenille for Curtains and Rugs, Spun Chenille for Fringes.

Warp Pile.—Formed from an extra Warp or Warps by means of wires. Velvets, Figured Velvets, Astrakans, cut and uncut, and their various methods of construction.

Tapestry, Brussels and Wilton Carpets.

Double Pile.—The principles of the construction and method of producing double-pile fabrics. The manner of cutting them in the loom while weaving.

Pile Formed Without Wires.—Smyrna Carpets and Rugs, Turkish Towels, etc.

### GAUZE FABRICS.

Structure of Gauze.

Various orders of crossing.

Figuring with plain Gauze.

Combination of Gauze with other orders of weaving.

Plain figures upon Gauze ground.

Combination of Gauze figures and figuring with extra warp.

Figuring with extra filling upon Gauze.

Materials used in making Gauze Fabrics.

Madras Cloths.

Method of making Doupes.

# THE JACQUARD MACHINE.

The History of the Jacquard Machine. The principles of its construction. Explanation of the various parts and their working. Methods of adapting the Jacquard Machine to all classes of fabrics. Various styles of machines. Single lift, single cylinder. Single lift, double cylinder. Double lift, single cylinder. Double lift, double cylinder. Raise and drop.

Tieing up the Jacquard Machine. The Comber-board. Methods of calculating and threading the same for the various Tie-ups. The French and English systems of Tieing-up. The

Straight-through. The Point tie. Combination of Straight and Point. Straight-through tie-up for repeated effects in one repeat of the design. Two-section tie-up. Four-section tie-up. Three-section tie-up. Tie-up for producing stripes and spots by means of an extra warp. Manner of working the Jacquard Machine in connection with front harnesses. Compound harness. Split harness, or shaft lashing, for satinfaced upholstery fabrics.

### CARD-STAMPING.

Explanation of Card-Stamping.

Stamping Cards for Common Damask, Reversible Draperies, Blankets, Beaver Shawls, Double Cloth Cloakings, Petit Point Upholstery, Shaft Lashing, Ingrain Carpet, Brussels Carpet. Two, three and four sections. Proper methods of Card-Lacing.

## INGRAIN CARPET.

Explanation of the structure of the fabric.

Selection of designing paper for the different grades, such as Fine, Superfine and Extra-super.

The various weaves commonly used, and painting of effects produced by them, in color, as used in Warp and Filling.

Modification of the Jacquard Machine for the production of Ingrain Carpets. Substitution of Trap-Boards and Tail-Cords for Hooks and Griffe Bars.

Working of the journals in connection with the machine. Tieing up the harness. Cross Point and Centre Ties. Arrangement of the leashes in the journals.

# ADVANCED CALCULATIONS.

Find the cost of mixed yarns and stocks. Mixing known quantities of stock at given prices, to produce a mixture at a required price.

Calculations as to textures suitable to the various single and double-cloth weaves.

Calculations as to cost of production of Chenille Table-Covers and Curtains.

Rules and calculations for change gears for the various take-up motions.

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Ascertaining desired speed of shafting and size of pulley required for a given speed of loom.

Analysis of the higher classes of fabrics—Overcoatings, Cloakings, Suspenders, Fancy Vestings, Gauze Fabrics, Upholstery Goods, Draperies, Brocatelles, Ingrain and Brussels Carpets, etc.

Instrumental Drawing.—Drawing of the principal Jacquard Tie-ups. Roller Strappings and Take-up motions of the various looms. Also illustrating section cut of the various fabrics, by means of drawings. Bedford Cords, Velvets, Corduroys, Suspenders, Brussels, Tapestry and Ingrain Carpets, etc.

Freehand Drawing and Color Work.—Color schemes for Upholstery Goods, Light-weight Draperies and Ingrain Carpets. Transferring designs to the Squared Designing Paper.

### SECOND YEAR—PRACTICAL WORK.

The study of the Power Loom. Its parts, with the principles governing each. Also the relation and timing of each part to the other.

Principles of the various shedding motions. Cam motion and the Cam and Scroll motion. Witch or Dobby motion. Single and Double acting.

Explanation of the principles of open and closed shed looms. Their advantages for the construction of different fabrics.

Consideration of the principal picking mechanisms in use. The alternating pick. The pick and pick. The cam and cone motion and sliding pick motion.

Shuttle-box motions. Raise and drop box. Skip box. Circular box. Box motions controlled by cams. Forward and reverse. Boxes controlled by a chain and by the Jacquard.

Study of the timing and setting of the various box motions, such as Knowles, Crompton, Wood, Furbush, Schaum & Uhlinger, Murkland Carpet Loom, etc.

Let-off motions. Positive let-off. Friction let-off.

Take-up motions. Positive, Non-positive and Variable. Filling stop-motions duly considered. Knowles, Crompton, Tucker, and Taylor Saalfrank.

Knock-off motions. Fast and loose reeds.

Chain Building. Care of Stock. Harness Chain and Box Chain. Building Chains for the Multipliers, as used on the Knowles Gem and Gingham looms. Stafford Double-Acting Dobby. Schaum & Uhlinger Jacquard Silk Loom.

Dismantling, reconstructing and timing and setting of the

above-mentioned motions.

Practical weaving on the Knowles and Compton Heavy Worsted and Woolen Looms. The Knowles Gem and Gingham Looms. The Fairmount Machine Co.'s Roller and Light-Weight Woolen Loom. The Bridesburg Clipper Loom. The Murkland Carpet Loom. The Drop Whitin Box Loom for Fancy Jacquard Effects. The Stafford Double-Acting Dobby for Fancy Cotton Loom. The Knowles Upholstery, Weft and Chenille Setting Looms. The Schaum & Uhlinger Swivel Loom for Spotted Effects on Dress Goods, Mantel Scarfs, etc. The Schaum & Uhlinger Jacquard Silk Loom.

### THIRD YEAR.

The work in the Third Year is confined mainly to advanced Dyeing, Carding and Spinning, and the higher classes of Textiles. It is also intended for students desiring to study more fully any special branch in which they may wish to engage.

## TOOLS AND MATERIALS.

Tools required by students in the Textile School are: One set of drawing instruments, one screw-driver, one pair plyers, one pair scissors, one reed hook, one pair of overalls and a jacket.

These tools, together with the necessary materials, such as paints, pencils, drawing paper, designing paper, etc., will cost about \$15.00 for the entire year.

## PARTIAL COURSE.

The course of study described above, covers a period of three years, and no pains have been spared to make it as thorough and complete as possible. All who are in a position to do so, are earnestly requested to take it. For those whose time will not allow them to take the regular course, a partial course has been arranged, covering a period of three months, October, November and December. The course of study is very similar to that taken up by the regular First Year Class, in the same time.

The theoretical work is confined to single-cloth weaves, yarn calculations and cloth analysis. In the weave-room a good deal of time is spent in working out original ideas on the small hand-looms. This course is carefully arranged for the development of the ideas gained in the study of theory. The class also takes up a course of Color Combination, intended to train the eye in the harmony of color and to familiarize the pupil with the best methods of effecting combinations. Chemistry and Dyeing are not included.

The idea of the Partial Course is not to make a student a thorough designer, but to give him a start and enable him to make an intelligent beginning, so that he may, if so disposed, profitably continue his studies at home.

### CHEMISTRY AND DYEING.

The Course in Chemistry extends over the full period of the School Year, the student devoting eight hours each week to lectures and laboratory work.

Lectures are given every Tuesday morning on the general elementary Chemistry. The elements are taken up separately and also in the compounds they form with each other.

The elements are considered in the following manner: first, their source and in what forms they exist, whether found free or in combination. If found in combination the processes for manufacturing them in the free state are given.

The peculiarities of the elements are then discussed; whether liquid, solid or gaseous in form, what action acids and alkalies have on them, and with which of the other elements they combine most readily.

Then the most important compounds of the elements are taken up and thoroughly considered: the processes for their manufacture and the practical uses made of them; the advisability of, and reason for, using one compound in preference to another of exactly the same nature; and, finally, the tests

for the elements are given, that is, the ones most commonly applied to determine the presence of the element. The course of lectures embraces the following elements, the ones most commonly met with only being considered: Oxygen, Hydrogen, Nitrogen, Chlorine, Bromine, Iodine, Flureine, Sulphur, Phosphorus, Arsenic, Antimony, Bismuth, Carbon, Silicon, Biron, Sodium, Potassium, Ammonium, Silver, Calcium, Strontium, Barium, Lead, Magnesium, Zinc, Cadmium, Aluminium, Chromium, Mangenese, Iron, Cobalt, Nickel, Copper, Mercury and Tin.

The entire course of lectures is illustrated by means of experiments, showing the methods of producing and testing the substances under consideration, and reference is constantly being made of the practical uses of the Chemicals in

the Dye-House.

The students' time is divided as follows; the lecture takes about two hours, and six hours are devoted to practical work in the laboratory, following the course given below. Besides this work a set of questions is given each week, which must be answered by the student.

After having satisfactorily finished the course in "elementary chemistry," qualitative analysis of the metallic elements and the detection of acids are taken up. By this means he is fitted to analyze the chemicals with which he will have to deal in a dye-house or laboratory, such as Acids, Soaps, Alkalies, Mordants, Water, etc.

# SUBJECTS OF STUDY, WITH EXPERIMENTS BY STUDENTS.

Chemical and Physical Changes.
Oxygen and Oxidizing Agents.
Hydrogen and Reducing Agents.
Nitrogen and its Compounds.
Nitric Acid and Ammonia.

Theory of Atoms and Molecules, with application of the same in figuring out Chemical Equations.

Chemical Equations with their use.

Acids—Alkalies and Salts.

Chlorine, Bromine, Iodine and Fluorine, their Acids and Salts and characteristics.

Sulphur—Sulphuric Acid, Sulphur Dioxide, its use in bleaching, and the Sulphates.

Phosphorus—Sodium Phosphate.

Carbon—Carbonic Acid and the Carbonates.

The Metallic Elements with all their Salts and Compounds; the action of one body on another; conclusions to be drawn from the form of the salts, and uses made of them, special attention being given to those which will be most met with in the dye-house.

Qualitative Analysis.

Detection of the Metals with their characteristic tests.

Detection of Acids.

Analysis of Salts.

The course in Dyeing also extends over the full period of the School Year, and embraces the coloring of all textile fibres, special attention being given to the Dyeing of Wool and Cotton. Lectures are given from time to time on the character of the fibres, the action of Chemicals upon them, their affinity for coloring matter, etc. The methods of Scouring, Bleaching and Dyeing are carefully considered, also the character of the coloring matters used and the purity of the Chemicals, Sulphuric Acid, Pure Alkali, Bichromate of Potash, Extracts of Dye-woods, etc.

The manufacture, purity and use of soaps is considered; what kind of water to use in scouring; how to rectify permanent and temporary hardness in water; the importance of scouring at the proper degree of heat, and the effects of poor scouring.

The methods and chemicals used in bleaching, with their proper use; the use of Mordants, and how to determine the correct one to be used for a given shade.

The peculiarities and application of coloring matters, fast and fugitive colors; how to test the fastness of a color, Aniline colors and all of the coal-tar products, Dye-woods, Alizarines, etc., special attention being given to the methods for producing the best shade and getting the most out of a color.

How to test for a color after it is on the fibre; also stripping the fibre of one color to put on another.

The student spends ten hours each week in the laboratory making tests, and in the dye-house preparing yarn for

use in the Weaving Department. The course in Dyeing is worked through as described on page 59, the first part of the term being devoted to wool and the last part to cotton. The dye-house is constantly receiving all the new dye-stuffs, from the dealers. The students have the benefit of testing the new products as soon as they are placed on the market.

### SPECIAL COURSE IN CHEMISTRY AND DYEING.

For those who desire to take up the course of Chemistry and Dyeing alone, a special course is arranged, the student spending the greater portion of his time in the laboratory at practical work. He also attends all the lectures on Chemistry and Dyeing, and goes through the same course of studies as described on page 59 *et seq.* Arrangements can also be made for a special course in Dyeing alone.

# SUBJECTS OF STUDY IN DYEING.

Wool—forms in which dyed; Scouring, Bleaching and Dyeing.

Aniline Colors—application and testing their fastness to light and scouring, with the class of goods they are used for.

Benzidene Colors—their fastness, use, etc.

Alizarine Colors—application, best mordants for certain class of goods, fastness to light and scouring, and the class of goods for which they are used.

Matching of shades both with Aniline and Alizarine colors.

Natural and Artificial Alizarine.

Logwood, Fustic, Sanders, Sina wood, Turneric, etc., with their application and fastness.

Matching shades with wood colors.

Cotton—forms in which dyed.

Bleaching and Dyeing.

Colors on Sumac, with their application and fastness.

Colors of Cutch, with their application and fastness.

One-dip Colors—Benzidene Dye-stuffs.

Dye-woods and Extracts.

Aniline Black and Cheap Blacks.

Turkey Red, Prussian Blue, Chrome Yellow, etc.

Matching shades on Cotton. Vat Indigo Dyeing.

Experiments to show the use of different metallic salts on the same color. Practical work in dye-house.

# CERTIFICATES AND DIPLOMAS.

On the completion of the regular First and Second Year Courses respectively, Certificates are awarded.

The Diploma of the School is awarded only to those who have satisfactorily completed the full Three Years' Course of Study.

### FEES.

Full Textile Course, Day Class, \$150 per year of 36 weeks.

Partial Textile Course, Dyeing alone, Day Class, \$100 per year of 36 weeks.

Designing and Weaving Course, Evening Class, \$20 per

term of 6 months.

Designing alone, Evening Class, \$15 per term of 6 months.

Dyeing, Evening Class, \$15 per term of 6 months.

Special Courses in Textile Design can usually be arranged to suit the requirements of the pupil. The fees for such courses will, however, never be less than those paid in the regular course. Special courses cannot be taken in the evening class.

## DEPOSITS.

Students in the Day Class are required to make a deposit of \$15 to cover breakage. This is returned at the close of the term less the amount due for apparatus destroyed.

## **PRIZES**

Three Prizes are offered in the Textile Department, one in each of the first, second and third year classes, as follows:

The American Wool Reporter Prize of \$20 for the most meritorious work by a student who has completed the first year's course.

The American Wool Reporter Prize of \$30 for the most meritorious work by a student who has completed the second year's course.

The Finckel Prize of \$25 for the best work by a graduate of the full three years' course.

### RULES FOR COMPETITION.

A student is considered eligible to enter into competition for these prizes when he has completed, to the satisfaction of his instructors, the course of study prescribed for the first thirty weeks of the term.

At the end of this period, those desiring to compete are allotted time for this work; while those who are not eligible, or who do not care to enter the competition, must devote that time to regular work.

The Prize Work may consist of either Trouserings, Suitings, Dress Goods, Upholstery, or any other class of fabric on which the authorities of the School may decide.

In the first year the student, after completing his designs, is supplied with the necessary colored yarns, and performs his work on the hand-loom.

The second and third-year students dye their own yarn, make all the necessary calculations, and perform the work on the power-looms, entirely unaided.

# DONATIONS.

The School has to thank the following manufacturers, firms and individuals for their generous donations of yarns and materials for use in this department during the year:

- F. A. Bochman & Co., Philadelphia, fine worsted yarns, various colors.
  - R. Sergeson & Co., Philadelphia, shuttles.
- G. C. Hetzel & Co., Chester, Pa., fine double and twist and fancy-colored worsted yarns.
- Wm. R. Weeden, Providence, R. I., woolen and worsted yarns, fancy colors.

Paul Whitin Manufacturing Co., Northbridge, Mass., finedressed cotton yarns.

Abderfoyle Manufacturing Co., Chester, Pa., fine colored cotton yarns.

Griswold Silk Co., Philadelphia, spun silk yarns, various

colors.

Erben, Search & Co., Philadelphia, stock illustrating the various processes of worsted manufacture.

Samples of jute, flax and hemp from Messrs. E. H. Fitler & Co., J. F. Bailey & Co., and C. Moore & Co., Philadelphia.

Samples of wool from Justice, Bateman & Co., Philadel-

phia.

Samples of cotton in the various stages of manufacture from R. D. Wood & Sons, Millville, N. J.; R. Garsed & Co., Philadelphia.

Samples of dyestuffs from Messrs. W. Pickhardt & Kuttroff, W. J. Matheson & Co., Sykes & Street, E. Sehlbach & Co., Schulze, Berge & Koehl, Lutz & Movinx.



Peruvian Water-Jar in the collection at Memorial Hall. From a pen-and-ink drawing by George F. Goldsmith, a Pupil in the School

# ROLL OF STUDENTS.

1891-92.

ADAMS, F. W., JR. ADAMS, ROBERT H. ALLEN, MARIA P. ALSOP, RACHEL G. ALTHOEN, HARRY ANDREWS, JOHN E. APPLE, WM. E. APPLEYARD, WM. S. ASHMAN, CHAS. T. ASPEN, JOHN W. AXFORD, WM. AYLWARD, THOMAS BACON, WM. W. BAILEY, VERNON H. BAKER, H. W. BAKER, NEWTON J. BAINS, EDW. BARNES, HUGH T. BATES, W. H. BAXTER, A. H. BEARDWOOD, J. BENNETT, JOHN B. BETTON, DONALD M. BEYER, ALBERT BIRKMIRE, JOHN S. BLUM, H. L. BOEHM, EDW. BORIE, FRANK L. BOWMAN, EVA F. BREADIN, ANNA M. BREADIN, HARRIET N. BREWIN, HARRY BRINTON, ANNE H. BROWN, HENRY L. BRUNT, H.

BRYANT, FRED. W. BRYLAWSKI, DELLA BUCHNER, GEO. BUNTING, ETHEL R. BUTTERWORTH, ALBERT CALHOUN, H. F. CAMERON, ROBERT CAMPBELL, JOHN W. CAVIN, WM. BROOKS CHAMBERLIN, BERTHA CHAMPLIN, W. D. CHASE, ELIZA B. CHEYNEY, MARIANNA CHITTICK, JAMES CHURCH, MABEL CLARKE, I. H. CLAY, LUCY CROWTHER, JOHN COMFORT, WM. C. COOPER, MORO P. CURRIE, EDW. D'ASCENZO, NICOLA DANGLER, ELLA L. DANZIG, MEYER DAVIDSON, JAMES DAVIDSON, MIRIAM DAVIS, A. C. DAWSON, DANIEL DEBARROS, CHAS. DEITZ, WM. E. DELANEY, KATHLEEN DEMOLL, CARL G. DENNISON, GRACE DILLON, L. M.

DOWNS, SAMUEL H.

DRYFOOS, CARRIE DUNN, E. S. ECKSTEIN, WM. EGBERT, SUSAN R. EICHHOFF, ALBERT F. FALKENSTEIN, GEO. FARRAND, LOUISE F. FARREL, KATHARINE L. FELLOWS, Dr. A. P. FETHERSTON, FLORENCE C. FLING, GEO. E. FOURIER, HARRY FOWLER, G., JR. FOX, AGNES M. FOX, HELEN A. FRANCE, J. W. FRANCIS, WM. F. FRENCH, SARA B. FRIEND, GEO. J. GALLAGHER, CARRIE H. GALLER, M. VICTORIA . GARVIN, LIDIE L. GEIGER, T. NEILSON GEIZER, GEORGE GETTY, MARY GLEDHILL, B. H. GLEDHILL, JOSEPH GOODELL, CAROLINE D. GOURLEY, MABEL E. GRAFF, THOMAS B. GRANZOW, WM. GRAY, PETER H. GREEN, ALBERT B. GREEN, LYDIA L. GREER, WM. K. GRESSETT, J. B. GRIESSINGER, FRED. GRIFFIN, MARION H. GUILLOU, ELISE V. HALLOWELL, ELIZABETH M. HAMBURGER, DAVID E. HANEFELD, GERTRUDE J. HARKNESS, CARRIE V. HATTON, HORACE T. HESS, GOTTLIEB HEVERIN, HAROLD C. HILLESLEY, WM. S. HOLLINGSWORTH, JOHN A.

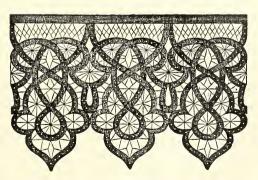
HOLT, ALICE HOLT, MARY J. HOLT, RICHARD HOLT, THOMAS HOLT, WM. F. HOSEY, EDW. HOSEY, THOMAS HOSKINS, L. L. HOYE, FRANCIS E. HUMES, WM. D. HURLBURT, MRS. F. B. INSKIP, WM. IVES, EFFIE JACOBS, ISABEL M. JAMIESON, THOMAS JEREMIAS, C. JESTER, ALICE M. KEENE, CHAS. KELLER, SARA F. KELLEY, ANNA L. KELSH, EDW. KENYON ANGIE D. KETCHUM ANITA M. KIEHL, ANNETTE I. KINCAVY, ROBERT F. KINGSMORE, MARY KINKEAD, GEORGE KITE, REBECCA KLEMAN, SARA L. KLOTZ, CHAS. W. KONITZKEY, ETHEL KOPP, THEODORE KUHN, FRED. H. LAMPHERE, W. D. LANDENBERGER, C. H., JR. LAWRENCE, J. LAU, FRANK LENZ, FREDERIC LEROY, ANITA LEES, JOSEPH R. LETCHWORTH, SARA H. LINTON, HORACE LIPP, EMMA L. LOTTE, EDW. LOWER, ISABEL LOWERY, JOSEPH LUFKIN BERTHA V. LUTZ, E. G.

LUTZ, GEO. W. LUTZ, WM. F. LYONS, FRANK G. MABBETTE, H. EARLE MAHONEY, JOHN D. MAHOOD, H. A. MARSHALL, MARY W. MCILHENNY, SELINA B. MACINTIRE, HARRY B. MACINTIRE, LUCY MACLAREN, JAMES T. MAGEE, FRANK, Jr. MAGINNISS, MAUD MANN, GERTRUDE S. MARKS, MARTIN MARTIN, ESTELLE MARTIN, FRANK E. MAY, ANNA KANE McCOLLIN, MARGARET McCORMICK, JOHN, JR. McCosker, Henry D. McGINLEY, HOWARD J. McGUIRE, JAS. E. McILWAYNE, MARTHA MESSLER, ELLA MILLER, CLARA L. MILLER, FRANK C. MINER, LEIGH R. MOLITOR, JOHN MONTANDON, HENRY MOON, W. A. MOORE, CLARA M. MOORE, JAMES C. MOSS, JOHN N. MUHLHAUSER, SIGMUND MULLER, HERMAN MUNZ, JACOB MURRAY, ISSACHAR NEWELL, GEO. P. NEWMAN, W. MAUD NOSKA, GEO. A. OELSCHLAGER, CHAS. PAGE, ETHEL N. PAINTER, FRANK H. PARRY, LUCY PATCHELL, DAVID C. PENFIELD, GEO. W. PENNOCK, OLIVIA C.

PODMORE, WM. POLLOCK, GRACE H. POTSDAMER, S. BELLE, POWELL, BENJ. F. PRICE, MARY L. PRICE, SUSANNA M. PROVOST, C. O. RAMSDEN, STANLEY G. RAMSEY, ETHEL REAL, MARY HUNTER REBER, HARRY REDMAN, NETTIE REED, WESLEY, JR. REEVES, GERTRUDE S. REGAR, NEWTON K. RICHARDSON, AGNES Y. RICORD, RETTA W. ROBBINS, EVERETT H. ROBBINS, ORLANDO D. ROWLAND, KATHARINE S. ROWLAND, WM. C. RUNYAN, STANFORD K. RYAN, MICHAEL J. SABINE, JEAN SEE SCHAEFER, JOHN N., JR. SCHLAUGHTERER, CHAS. SCHOFIELD, ELISA H. SCHUENEMAN, RUDOLPH SCOTT, WALTER SCOTT, WALTER SECKEL, LAWRENCE SEEBERGER, FRANK SHARPLES, WM. H. SHEPPARD, MRS. ABBY G. SHINN, JOS. H., JR. SHIVERS, D. LOUIS SHULTZ, LOUIS SLOCUM, ALBERT W. SMILEY, WM. H. SMITH, ALBERT H. SMITH, EMMA A. SMITH, HELEN I, SMITH, THEO. H., JR. SMITH, OSCAR L. SMITH, WALTER LEE SOMERS, MAE EARLE SOMERS, MORRIS SOUDERS, EDWIN S.

SPEIRS, JAMES SPENCER, J. W. STAHL, LOUIS STANDRING, G. L. STECK, ELWYN A. STEPHENSON, ALBERT E. STEVENS, M. T., Jr. STEVENSON, THOS. STIRLING, MARTHA STUBBS, JOHN SUPLEE, ELEANOR H. SUPPLEE, EUGENIE SUTTON, CHAS. W. SWYLER, HORACE S. TAIT, ELIZABETH S. TAYLOR, JOHN F. TAYLOR, SARA A. THOMPSON, L. B. THUMLERT, MAY TRICKER, ALBERT B. TRITTEN, EMIL C. TROTH, ANNA COATES TURNER, WM. LAIRD TUTHILL, LUCY VALENTINE, CORA VOIT, RICHARD WALENTA, GEO.

WALTER, W. WALTON, H. L. WARREN, CORA WARREN. ELLA P. WATSON, AGNES WATSON, DR. EDW. N. WAY, SYLVESTER WEIHENMAYER, FRED. C. WEIHENMAYER, WM. J. WELSH, LAURA WETHERBEE, W. A. WETHERILL, ISABELLA N. WHITALL, MATILDA F. WHITESIDE, WM. WILLIAMS, THYRZA C. WILLIAMSON, CHAS. WINGATE, CHAS. B. WISE, HERBERT C. WOLFENDEN, DANIEL WOLFERSBERGER, RENA WOLFERSBERGER, WM. C. WOOD, JOHN WOOD, JOHN B. WOOD, SAMUEL WYLIE, MARGARET VARNALL, SALLIE G. ZURNIEDEN, ERNEST



Lace designed by Susan Eckert, a Pupil in the School.

# A PARTIAL LIST OF FORMER STUDENTS OF THE SCHOOL, WITH THEIR PRESENT OCCUPATIONS.

(Pupils are requested to assist the Principal in correcting this List.)

ALDRICH, W. S., Instructor, Johns Hopkins University.
ALGEO, BRADLEY C., Instructor, Pennsylvania Museum and School of Industrial Art.
Art.
ALLEN, FRANKLIN, Designer, Boston Manufacturing Co., Waltham, Mass.
ALSOP, RACHEL G., Teacher of Drawing, Friends' Select School, 16th & Race Sts.,
Phila.
ADOLDH ALBERT I. Designer and Decorator, Carlile & Joy, Philadelphia.

ADOLPH, ALBERT J., Designer and Decorator, Carlile & Joy, Philadelphia. AYLWARD, THOS. J., Chemist, with Browning Bros., Philadelphia.

BAILEY, VERNON HOWE, Illustrator, Philadelphia.
BANES, J. W., of Erben, Search & Co., Philadelphia.
BARR, WILLIAM, Dyestuff Salesman, Davis & Walton.
BEATTY, JOHN R., Woolen and Cotton Manufacturer.
BECK, ROBERT K., Designer, John A. Lowell, Boston, Mass.
BERG, KATE H. W., Decorative Painter, Philadelphia.
BILSON, C. R., Designer, DeKosenko & Hetherington, Philadelphia.
BILSON, C. R., Designer, DeKosenko & Hetherington, Philadelphia.
BIRD, CLINTON H., Woolen Manufacturer, Bethlehem, Conn.
BISSEGGER, J. J., Draughtsman, with Frank Miles Day, Philadelphia.
BLACK, W. A., Designer, Carey Bros, Philadelphia.
BOND, W. E., Designer, Neshuanick Mills. East Hampton, Mass.
BREADY, EDWIN K., Designer, with Clarence Whitman, N. Y.
BRIDGE, SAMUEL, Designer and Boss Weaver, Owoneco Silk Co., Norwich, Conn.
BROOKS, JAMES E., Ink Manufacturer, Philadelphia.
BROOM, HARRY, Dyeing, Firth & Foster Bros., Philadelphia.
BURT, JOHN, Boss Dyer, M. A. Furbush & Sons.
BUTTERWORTH, SAMUEL, with Saranac Silk Mills, Philadelphia.

CAMPBELL, PETER, Dyeing.
CAMPBELL, ARCHIE, Boss Dyer, Ivins, Dietz & Magee, Philadelphia.
CAMPBELL, J. ADDISON. Woolen Manufacturer, Manayunk.
CARROLL, BENJAMIN. Designer. Philadelphia.
CONDON, MORRIS G., Overseer, James Doak, Jr., & Co., Philadelphia.
CHADWICK, ROBT., J. & J. Dobson. Philadelphia.
CHALK, WM. GEORGE, Designer, Philadelphia.
CHUBB, AMY, Designer.
CHURCH, MABEL, Teacher of Drawing, Girls' Normal School, Philadelphia.
COUPE, ALBERT, Designer, North Star Woolen Mill, Minneapolis, Minn.
CUMMINGS, HELEN N., Decorative Painter, Philadelphia.

D'ASCENZO, NICOLA, Decorator and Designer, Karcher & Rehn, Philadelphia. DAVIDSON, H. O., Designer, Arasapha Mills, Chester, Pa. DAVIS, SAMUEL, Designer, Albert Cranshaw, Manayunk. DEWAR, WM. H., Designer of Furniture, with Geo. W. Smith, Philadelphia. DIETZ, JOHN, Designer, Barnes & Beyer, Philadelphia. DIEZ, JOHN, Designer, Philadelphia.

ENGEL, GEO. W., Designer, Philadelphia. ENTWISLE, ALBERT, Instructor, Manual Training School, Philadelphia. EVANS, GERALD, Designer, Vollmer & Co., Philadelphia.

FARLEY, ROBERT. Overseer, Weaving Department. Philadelphia.
FENNER, ETHLYN K., Teacher of Drawing, Pratt Institute, Brooklyn.
FIEDLER, G. O., Designer, Tillotson Mills, Pittsfield, Mass.
FINCKEL, CONYERS B., Instructor in Dyeing, Pennsylvania Museum and School
of Industrial Art.
FIRTH, EDWARD, with Firth & Foster Bros., Philadelphia.
FITZGERALD, SMITH, Foreman, Wool Sorting, Craven & Dearnley.

FOSTER, J. W., with Firth & Foster Bros, Philadelphia.
FOSTER, FRANK, with Firth & Foster Bros.
FRISSELL, FRANK Assistant Superintendent Russell Mfg. Co., Middletown, Conn.
FROMUTH, AUGUST, Designer, J. & J. Dobson, Philadelphia.
FRY, J. W. B., Architect, Philadelphia.
FETHERSTON, FLORENCE, Instructor in Design, Pennsylvania Museum and
School of Industrial Art.

GADSBY. H. C., Treasurer, Hope Mills, of North Carolina. GLEDHILL, JOSEPH, Designer, Philadelphia. GOODWIN, HOWARD R., Designer, Philadelphia. GOODWIN, MYRTLE D., Teacher, Pennsylvania Museum and School of Industrial Art.

GRANGE, CHARLES, Plush Weaver. J. & J. Dobson. GRAY, W. F., Professor of Drawing, Manual Training School, Philadelphia.

HALL, T. L., Designer, Philadelphia. HALLOWELL, ELIZABETH M., Teacher of Drawing, Philadelphia. HANEFELD, GERTRUDE, Designer and Engraver, Keystone Watch Case Co.,

HANEFELD, GERTRUDE, Designer and Engraver, Keystone Watch Case Co., Philadelphia.
HARRIS, W. J., with T. A. Harris, Philadelphia.
HOGAN, MARY H., Supervisor of Drawing, Public Schools, Harrisburg, HORROCKS, J. HOWARD, with Horrocks & Bro. Dyers, Philadelphia.
HARVEY, GEO. H., Carpet Manufacturer (firm of Harvey & Co.), Philadelphia.
HAVES, J. J., Boss Dyer, West Jersey Dye Works.
HAYS, FRANK A., Architect, Philadelphia.
HENRY, JAMES, Designer, Joseph Leedom, Bristol.
HILL, EUGENE H., Designer, Philadelphia.
HILL, EUGENE H., Designer, Philadelphia.
HOLT, MARIA L., Manufacturer of Stained-Glass Work, Philadelphia.
HOLT, THOMAS, with Schaum & Uhlinger, Philadelphia.
HOLT, WILLIAM, Designer, Berkey, Gay & Co., Grand Rapids.
HOPFER, CHARLES, Designer, Philadelphia.
HOPFER, CHARLES, Designer, Philadelphia.
HUQUENELE, ADELA, Teacher of Drawing and Painting, Philadelphia.
HUSSON, MILTON, Architect, Williamsport.

IVINS, WM., JR., with Ivins, Dietz & Magee, Carpet Manufacturers.

JACKSON, CHAS., Teacher of Drawing, Media. JACKSON, WALTER H., Mechanical Draughtsman, Schoen Manufacturing Co. JACOBS, GEARY, Woolen Manufacturer, Jacobs Bros., Portland, Oregon. JAMIESON, J. P., Draughtsman, Cope & Stewardsen, Philadelphia. JUNGKURTH, JOHN W., with Thomas Wood & Co., Philadelphia.

KELLY, JOHN, Designer, Philadelphia.
KENWORTH, SAMUEL P., Tapestry Carpet Manufacturer.
KENWORTH, SAMUEL P., Tapestry Carpet Manufacturer.
KETCHAM, WINIFRED E., Designer, Keystone Watch Case Co., Philadelphia.
KNEEDLER, HARRY M., Manufacturer.
KNIGHT, HARRY B., Dyestuff Salesman, F. Brett & Co.
KRAYER, J. FREDERICK, Designer, DeKosenko & Hetherington, Philadelphia.
KUNZE, GRANT, Designer with Stead & Miller, Upholstery Manufacturers.

LACHENMEYER, PAUL, Instructor in Drawing, Pennsylvania Museum'and School LACHENGIETER, FACE, Machine Control of Industrial Art.
LANG, WM., Designer, Philadelphia.
LATHROP, BESSIE, Teacher Modeling and Carving, School for Deaf-Mutes, North-

LATHROP, BESSIE, Teacher Modeling and Carving, School for Deal-Mutes, North-ampton, Mass.

LAWSON. DAVID, Designer, Philadelphia
LAYCOCK, JOHN, with Stead and Miller, Philadelphia.
LETCHWORTH, SARAH H., Teacher of Drawing, Frankford Asylum, Philadelphia.
LEVERING, JOHN, with Erben, Search & Co., Philadelphia.
LEWIS, D. C., with R. D. Wood & Son, Millville, N. J.
LITTLEWOOD, A. C., with G. J. Littlewood & Co., Dyers.
LITTLEWOOD, BENJ., Boss Dyer, Wm. Wood & Co., Philadelphia.
LONG, ALBERT T., Designer Art Metal Work, DeKosenko & Hetherington, Philadelphia.
LUDELL, HAROLD, Designer, Philadelphia.
LUTZ, EDWIN G., Designer (General), Philadelphia.

MAGEE, JAMES S., Carpet Manufacturer, Philadelphia. MALCOM, JOHN, Dyeing, Quaker City Dye Works Co., Philadelphia. MARTIN, WM. S., Designer, Philadelphia. MASON, A. HAMILTON, Swift Manufacturing Co., Columbus, Ga. MAY, ANNA K., Designer, McCallum & McCallum, Philadelphia.

McGUIGAN, JOHN, with Thos. Dolan & Co., Philadelphia.
McKEE, VEAGH, Designer, Philadelphia.
McRCER, FRED. T., Draughtsman, Philadelphia.
MERCER, HRED. T., Draughtsman, Philadelphia.
MELOR, W. HARRY, Designer (Furniture), Philadelphia.
MELLON, W.M. S., Designer, Philadelphia.
MITCHELL, ALEXANDER T., Designer, Everett Woolen Mill, Great Barrington, Mass.
MORTON, JOHN L., with Thomas Dolan & Co., Philadelphia.

NYE, MYRTLE E., Designer, with Robert Camden, Philadelphia.

OGIER, VICTOR, Designer, Philadelphia.

PARRY, ANNA W., Illustrator, with Strawbridge & Clothier, Philadelphia. PENNELL, JOSEPH, Artist. London, England. PHILLIPS, A. C., Finishing, Joseph Bancroft & Sons. PHILIPS, JOHN C., Finishing Joseph Bancroft & Sons. PRICE, S. M., Teacher of Drawing, Miss Irwin's School, Philadelphia. PUGH, GEO. W., Designer, Philadelphia.

RADCLIFFE, JOHN R., Foreman, Dye Works, R. D. Wood & Son, Millville.
RAMBO, H. E., Carpet Manufacturer, Philadelphia.
REDDIE, ARCHIBALD F., Head Designer, McCallum & McCallum, Philadelphia.
REDDIER, ANNA E., Instructor of Drawing, State College, Pa.
REINECKE, WM., Dyeing, with Wm. R. Diller & Co.
RICE, R. A., Superintendent, Inman Mill, Pascoag, R. I.
RICE, WILLARD M., Designer, John Bromley & Sons, Philadelphia.
RICORDS, JENNIE T., Designer, Ketterlinus & Co., Philadelphia.
RILEY, JOSEPH F., John Bromley & Son, Philadelphia.
ROLLER, OSCAR F., Foreman, Ketterlinus & Co., Philadelphia.
ROGERS, WM, H., Overscer Weaving Department, John G. Carruth & Co., Philadelphia.

SCHAUM, OTTO, of Schaum & Uhlinger, Philadelphia.
SCHLESINGER, ALFRED R., Designer and Illustrator, Cincinnati.
SHARPLESS, WILLIAM, with Brainerd & Armstrong, New London, Conn.
SHINLE, JOHN, Designer, Philadelphia.
SIMONS, A. C., Instructor in Carving, Pennsylvania Museum and School of Industrial Art.
SKEEN, JOHN, Designer and Illustrator, Philadelphia.
SLATER, MARY ELLEN, Instructor in Modeling, Pennsylvania Museum and School of Industrial Art.
SMITH, THOMAS, Designer, John Bromley & Sons, Philadelphia.
SMITH, OSCAR, Draughtsman, Karcher & Rehn, Philadelphia.
STEWART, JAMES T., Manufacturer, Philadelphia.
STONE, THOMAS, Designer, Potomak Mill. New Bedford, Mass.
STONE, THOMAS, Designer, Potomak Mill. New Bedford, Mass.

TROOST, WM., Designer for Rutter & Merritt, Ornamental Iron Works, Philadelphia. TITHER, JAMES T., Designer and Superintendent. Media, Pa. TOLMAN, ANDREW, Designer, South Berwick, Maine. TRUITT, JOSEPH, with Thomas Dolan & Co., Philadelphia.

VAN GELDER, PETER, Decorative Painter, Philadelphia. VAN GUNTEN, CHAS., Designer, Oldham Mills, Paterson, N. J.

SWARTZ, ALBERT, with Quaker City Dye Works, Philadelphia.

WALTON, JOHN P., Designer, Philadelphia.
WASHINGTON, ELIZABETH, Designer, Lippincott Soda Fountains, Philadelphia.
WASHINGTON, ELIZABETH, Designer, Lippincott Soda Fountains, Philadelphia.
WASHINGTON, AGNES M., Artist, Philadelphia.
WEISNER, CHAS. B., Designer, Amoskeag Mfg. Co., Manchester.
WILKINSON, HOWARD M., Designer, with Andrew Cochran, Philadelphia.
WILKINSON, HOWARD M., Designer, with Andrew Cochran, Philadelphia.
WILLIS, ALBERT P., Instructor of Drawing, Cornell University.
WILSON, VICTOR, Designer and Draughtsman, New York.
WOLFENSBERGER, WM., Designer of Carpets, McCallum & McCallum, Philadelphia.
WOLVERS, HERMAN, Designer, Cornelius & Sons, Philadelphia.

YUNDT, CHARLES, Designer, Philadelphia.

ZELLERS, JOHN W., Designer, Montgomery Web Co., North Wales, Pa.

The Pennsylvania Museum and School of Industrial Art is, at once, one of the most useful and best known of the educational institutions of the city. It has attracted attention in this country and in Europe. Its methods have profoundly modified practical technical training elsewhere, and its graduates obtain positions and discharge duties which place the success of the School beyond question. Like all higher education of the best order, this School deserves and demands the support and aid of the State.—The Press, Philadelphia.

From the commencement this School has numbered among its Board of Officers the manufacturers, who have devoted a large share of attention to the development of k. At this School young men and women are thoroughly instructed in the useful arts, including drawing, painting, modeling, wood-carving, textile designing, weaving, chemistry and dyeing. In order to thoroughly appreciate the work of this School, a personal visit will convince all that it is filling a much-needed want. So thoroughly is this School appreciated that with its present accommodations it is overcrowded, and several students are awaiting vacancies. And the need to-day is a much larger building, where the work of the School can be more effectually carried on. During the past year, by the generous contributions of our leading textile machinery manufacturers, generally, the practical work has been brought up to a state of perfection second to no other institution of its character in this country or in Europe.—American Wool Reporter, Boston.

There is, it may be safely said, no other art school in the United States, and possibly no other in the world, where a student can acquire in so short a time that technical knowledge which makes his labor of higher market value, or attain it in a higher degree, than at this one. The School endeavors to qualify its young American students that they may be equipped to supersede the Scotch, German or French designers, who, taking advantage of the unpractical training of our home talent, come over here to draw large salaries. A graduate of this School may feel assured that, if industrious and energetic, he is in no danger of being pushed to the wall in the struggle for existence that rages vigorously in our large cities; and it may be safely said that the students of few art schools dare venture a similar belief in the marketable value of the education they have received. The Art Amateur.









