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TUCKER PORCELAIN 1826-1838:

A RE-APPRAISAL

by

Phillip H. Curtis

A thesis submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Master of Arts in Early American Culture.

June, 1972

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ACKNOWLEDGMENTS

In the history of American ceramics, few manufactories provide as many possibilities for research and study as does the Tucker porcelain factory of Philadelphia. The complete factory papers include account books, formula and price books, day books, pattern books, letter books, and line drawings. These Tucker family and factory papers, presented to the Philadelphia Museum of Art in 1951, by a Tucker descendant, provide the essential primary source material for a re-evaluation of the history of the Tucker factory. A re-evaluation that has provided new insights into the production and historical significance of Tucker porcelain.

In my pursuit of the re-evaluation, I am particularly indebted to the late Edwin Atlee Barber whose 1893 edition of Pottery and Porcelain of the United States furnished the necessary background concerning the Tucker factory.

Without the assistance of the Philadelphia Museum of Art and Raymond Shepherd this thesis would have been impossible. The Philadelphia Museum extended every personal and professional courtesy to me in allowing access to both their extensive manuscript collections and their outstanding collection of Tucker porcelain. I am also indebted to the American Wedgwood Seminar for their encouragement and scholar-

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Chapter I

INTRODUCTION

From the seventeenth century to the mid-nineteenth century, Philadelphia was a major center of American ceramic production. These products ranged from common red ware to porcelain. The establishment and success of these potteries indicates a favorable Philadelphia "environment".

At the beginning of the nineteenth century Philadelphia was characterized by speed, bigness, newcomers, and money.¹ The population of Philadelphia increased from 67,811 in 1800 to 161,410 in 1830.² This increased population furnished ready markets for home products and an increased demand both for foreign goods and competitive quality American products.

The succession of changes in transportation, the new turnpikes, canals, and the improvements in sailing ships, navigational aids, express and postal service opened the western areas of Pennsylvania as new sources of raw materials and markets for Philadelphia goods. These increases in communication and transportation brought Philadelphia into closer commercial contacts with Washington, New York, and Baltimore.³

The new Philadelphia western markets in Pennsylvania were

composed of large numbers of German and Scotch-Irish immigrants who flooded into Philadelphia and moved west to the fertile farm lands of Bucks, Lancaster, Chester, and Philadelphia counties.

The advances in transportation and communication partially were a result of the War of 1812 and the rising national importance of New York.⁴ With the end of the War of 1812 United States shipping was again forced to compete on an equal basis with the shipping of England and France. Given the stronger European competition, Philadelphia could not compete, and was forced to concentrate its efforts on the development of internal markets.

The decline of Philadelphia foreign commerce was also a result of the growing importance of New York and the Erie Canal which were replacing Philadelphia in commercial activity. Philadelphia was rapidly changing from a pre-industrial town economy to an industrial regional economy-based town. With the increase in home markets and the decline in foreign commerce, Philadelphia entered the realm of industrialization and manufacture which was a result of increased markets. A substitution of stage lines and canal trade with the interior was made for ships and foreign commerce.

The large scale production and increased transportation closely linked Philadelphia with national business conditions. As a result, the city was subject to peaks of prosperity and depression, such as the economic depressions of 1819 and 1837. Despite the financial depressions Philadelphia boomed in the first half of the

nineteenth century, which was marked by its first period of rapid urbanization and industrialization.⁵

All of these factors - increasing population, internal trade, advance in transportation and communication, and expanding markets together with readily available raw materials - provided the essential means for the development of the production and marketing of Philadelphia ceramics during the first half of the nineteenth century. This tradition of Philadelphia ceramic production had been established during the eighteenth century.

The manufacture of porcelain in Philadelphia was initiated when, on December 29, 1769, Gousse Bonnin and George Anthony Morris organized a china manufactory in the Southwark area. The factory produced a blue and white ware similar to that of the English factories of Worcester and Bow, but due to financial problems Bonnin and Morris ceased operation after two years.

Prior to 1775, Jonathan Durell of Philadelphia produced "striped and coloured dishes of divers colours".⁶ In 1791 John Curtis manufactured pottery from clay obtained at Tenth and Filbert Streets, Philadelphia.⁷ The Miller family was one of the more important families associated with ceramic production in Philadelphia. Andrew Miller operated a pottery at the northwest corner of Filbert and Seventh Streets, but during the 1820's the factory was relocated to 37 and 39 Zane Street.⁸ After Andrew Miller's death the business was continued by his sons, Abraham and Andrew Miller, jr.

The 1820 Pennsylvania Census of Manufacturers provides invaluable documentation of a Philadelphia pottery. Concerning the factory of Abraham Miller, the listing states:

A. Miller, potter

Raw Materials Employed

Clay about 80 Team loads value \$240
 Wood 190-200 cords value \$800
 manganese 4 wt value \$28
 Red Lead 2 Tons value \$360

Number of Persons Employed

6 boys

Machinery

3 potters wheels 2 turning lathes
 all in operation and clay mill

Amount of capital invested

\$2500 - \$3000

Amount paid for wages \$2000 - 2300

" of contingent expenses \$300-600

Type of articles manufactured-common
 coarse earthenware (not stone) also,
 Black and brown tea pots and a great
 quantity of other articles, known in
 common, by the term black and brown
china

Market value of the articles which
 are annually manufactured - actual
 average sales for 2 yrs last past
 \$6000⁹

Abraham Miller was elected to the first Board of Managers of the Franklin Institute when it was organized in 1824.¹⁰ For many years Miller served on the Institute's Committee of Judges for Earthenware. In the Institute's 1824 competition, a premium was not awarded for a specimen of pottery or porcelain, but the products of Abraham Miller received special mention. The judges reported that in the pottery category,

No specimens of this article were offered with a view to competition for a premium. The few articles that were exhibited were from the manufactory of Abraham Miller, Zane

st. Philadelphia, consisting of red and black glazed teapots, coffee pots, and other articles of the same description. Also a sample of platinated or luster pitchers, with a specimen of porcelain and white ware, all of which exhibited a growing improvement in the manufacture both in quality and form of the articles.¹¹

After 1824, Miller continued to enter pottery specimens in Institute competitions but, because he served as a member of the Board of Managers, he was ineligible to win. At the closing and sale of the Tucker and Hemphill factory in 1838, Abraham Miller obtained many of the Tucker molds.¹²

James Ronaldson, another Philadelphia potter, in 1808, produced red-and-yellow-ware tea sets at his pottery on South Street.¹³ The Columbia Pottery, in operation from 1808 to 1813, was the site of Alexander Trotter's queensware production.¹⁴ Between 1810 and 1816 John Mallowny, a brickmaker and potter, produced red, yellow, and black teapots, coffee pots, and other table wares at his establishment, the Washington Pottery Company.¹⁵ In 1811 Daniel Freytag, a potter and china dealer, made china and decorated it with gold and silver in his pottery at 192 South Fifth Street.¹⁶ An imitation of English Liverpool ware was made by David G. Sexias between 1817 and 1822.¹⁷

In 1812 Thomas Haig, a Scottish-trained potter, produced Queensware and other earthenwares in the Northern Liberties section of Philadelphia. The 1825 Franklin Institute competition awarded an honorable mention to Thomas Haig "for his very excellent specimens of

red and black earthenware (if sent in time would have won),"¹⁸ Thomas Haig's entry consisted of

395	One	Black	Teapot	
397	One	do	Coffeepot	
398	One	do	half gallon Pitcher	(diamond)
399	One	do	do	do (plain)
396	One	Red	Teapot	
400	One	Cake	Mould,	No. 6
401	One	do	do	do 9
402	do	do	do	do 11
403	Four	Strainers		
404	Three	Pans		¹⁹

The judges said of his entry:

Thomas Haig - clay taken in city Superior in quality to those imported from England body - perfectly burned deprived of all absorbent qualities glase - good, free from cracks; neat workmanship²⁰

In 1826 the Franklin Institute awarded the bronze medal to Haig for "...the makers of the best red earthenware".²¹ Thomas Haig died in 1833 and the pottery was continued by his two sons, James and Thomas Haig.

The establishment of these and other Philadelphia potteries confirms the availability of raw materials, markets, and a general spirit of encouragement. Philadelphia artisans and craftsmen were lauded by public pronouncements concerning domestic industry. In 1819 the Philadelphia Society for the Promotion of American Industry was founded on the principle

...that if there be any one truth in political economy more sacred and irrefragable than another it is that the

prosperity of nations bears an exact proportion to the encouragement of their domestic industry.²²

In reference to ceramics the Society stated:

Let us suppose for a moment that the western farmer instead of purchasing his pottery and delft ware in England had in his own neighborhood manufactories of those articles whence he could procure them free of the enormous expenses of sea and land carriage amounting in many instances treble the 1st cost.²³

The Franklin Institute, like the Philadelphia Society for the Promotion of American Industry, was chartered to insure "...the promotion and encouragement of manufactures and the mechanic and useful arts."²⁴

A note added at the end of Abraham Miller's entry in the 1820 Census of Manufacturers further reveals the potter's viewpoint on the problem of competition by imported goods. Miller wrote:

The articles above enumerated have been tried for 10 or 12 years and are esteemed as highly as the European articles of which they are an imitation. there is sufficient quantity of skill at market for the manufacture of a quantity equal to the consumption of the United States - the quantity manufactured at present is somewhat less than half the quantity manufactured in the years 1814, 1815, & 1816. Notwithstanding many of the articles which we make are equally esteemed with & supply the place of white English ware - yet as the latter are sold to the dealers at a price somewhat lower than we can afford ours, it

happens that they (the dealers) find it their interest not to keep any of ours on hand because it would very generally hinder the sale of those which afford them a large profit - the price of each to the consumer being the same. The demand for Tea pots & Coffeepots would be such as to exclude the English ware of the same kind from the market were it not frequently imported by foreign agents and being of too little value to be kept long in the store it is frequently sold for less than cost.²⁵

It was into this Philadelphia environment that William Tucker began his experiments with ceramic production. They culminated in a period of twelve years of commercially successful production of porcelain - the first in the nation.

Chapter II

HISTORY OF THE FIRM

William Ellis Tucker, the son of Benjamin and Theodosia Irwins Tucker, was born in Philadelphia on June 11, 1800. In the same year Benjamin Tucker opened a private school next to the Free Quaker Meeting House. Prior to 1800 Benjamin Tucker conducted a school at 206 Race Street, Philadelphia. Not content with teaching, and in need of supplementing his income to support a family of eleven children, Benjamin Tucker became involved in other business interests. His letter books are filled with the records of real estate and mercantile transactions. One such mercantile interest was a china store at No. 324 High Street (now Market, between Ninth and Tenth Streets) which he operated from 1816 to 1823. In that year he retired from the china business and established the Philadelphia Select Academy at the southwest corner of Fifth and Mulberry Streets. An advertisement for the school appeared in Poulson's American Daily Advertiser. The notice stated that the Philadelphia Select Academy was located on the

...sw corner of Arch & Fifth-streets. The exercise of this Institution will be resumed on the 18th inst. The Annual Course of Lectures on Natural Philosophy and Chemistry, with illustrated experiments, will commence before the Senior class, early in the Eleventh Month

B. Tucker,
PRINCIPAL¹

Benjamin Tucker charged four dollars for a quarter of English and five dollars for a quarter of mathematics.² A quarter consisted of twelve weeks. Pens, ink, and candles were included in the price of the course.

As a prominent Philadelphia educator, Benjamin Tucker supported many local causes and institutions. An ardent Quaker, Tucker served as an officer in the Philadelphia abolitionist society. He served as a member and manager of the Apprentices's Library.³ In 1824 he became a charter member of the Franklin Institute.⁴

William Tucker's early career was closely connected with that of his father. William began his professional career as a teacher.⁵ He also worked in his father's china store where he sometimes enamelled undecorated European porcelain which his father imported. A small kiln for firing the painted china was erected behind the store. The use of this kiln and the opportunity to decorate ceramics helped to stimulate William's interest.⁶ A series of lectures, delivered by Benjamin Tucker on the application of the physical sciences to arts and manufactures also influenced his interest and advanced his knowledge.⁷ In addition, the Franklin Institute of Pennsylvania offered a series of lectures on various branches of the arts and sciences. They noted,

...the Board expects a few more Members who have volunteered their time. Among these, the Board are happy to announce that they have the promise of a lecture on the important art of Pottery, from a gentleman practically conversant with this useful and interesting art.⁸

Benjamin Tucker's charter membership in the Franklin Institute qualified William for entrance into the Institute's lectures. The Franklin Institute commented on the number of young people who attended the series of lectures by stating that

Among those who are regular attendants, your Board have with pleasure observed many young individuals, who are either sons of apprentices of members....The facility, which affords to parents and masters, loudly calls upon them to improve this opportunity of impressing, at an early age, upon the minds of their sons and apprentices, a taste for study, and correct doctrines upon those sciences which so materially affects the arts.⁹

In addition to the public lectures, William Tucker acquired knowledge of chemistry and its role in ceramic production from printed source material. Benjamin Tucker's memberships in the Franklin Institute and the Apprentices's Library placed the libraries of both institutions at William Tucker's disposal. The Franklin Institute library contained a growing number of technical books and pamphlets. The Apprentices's Library contained 6,185 books with such titles as Chamber's Dictionary of Arts and Sciences, Artist's Manual, Bancroft on Colours, Bache's Chemistry, Handmaid to the Arts, Cabinet of Arts and Manufactures, and Tucker's Grammar of Chemistry.¹⁰ Many of these books were concerned with the chemical properties and compositions of pottery and porcelain. Tucker's Grammar of Chemistry, also in the Library, was written by Benjamin Tucker.¹¹

With the closing of his china store in 1823, Benjamin Tucker provided William with the necessary finances to open a dry goods business. In addition to financial assistance, he constantly

furnished his son with unsolicited advice concerning the management of the dry goods store. One piece of advice, contained in a letter, began;

From a statement of thy affairs which thou hadst lately shown me, it appears that thou hadst a stock of goods now on hand which is greater than all the debts thou has contracted and in order to guard thee against the rashness of giving notes, which may and very probably will, bring thee to insolvency and disgrace, I give thee this written caution (of which I shall keep a copy) and inform thee, that from the nature of my own private engagements, and the expense of my large family, thou must not expect me to advance thee one Dollar more than I have already done or in any way to become bound for thee.

I am thy Father B. Tucker¹²

The threat of withdrawing his financial assistance was an idle one. Throughout the history of the Tucker factory, Benjamin was the major investor and the guiding influence. His dominant personality and importance overshadowed that of William Tucker.¹³

While still engaged in his dry goods business William Tucker began his experiments with ceramic production that culminated in the formulation of creamware and porcelain. The Day Book of William Tucker provides invaluable information pertaining to the early experiments of the Tucker factory.¹⁴ The first recorded experiment appears under the heading:

Trial 1st No. 1

The preparation of B's clay was nearly one fourth part silax to mixture . was made in cups by measure . the silax was dry and the clay was a thick slip. I afterwards added nearly another cup of clay which made ten cups of clay slip to nearly three cups of fleet

The ware is marked No 1.¹⁵

The first dated experiment was noted:

Experiments made at Tucker and Birds China Factory
 July 10th, 1826
 Ware marked mixture passed through sieve
 4 Parts clay
 1 Part Silax D & F's Clay
 First made no. 12 16

The next ware, marked "no. 2", was composed of the same ingredients.

The wares numbered "5" were composed of frozen clay and silax.¹⁷

Wares numbered "6" to "10" consisted of the same combinations of clay and silax. These experiments were directed toward making "Queensware", the first product of the Tucker factory.¹⁸

Concerning the source of the materials utilized in the production of Tucker creamware, a notation in William Tucker's Day Book began:

Mr. Bruerton's clay for making Queens ware comes about 5 miles from Perth Amboy you must stop at Mr. Arnold's Tavern and enquire of him the way to Mr. Dallies the clay belongs to Dallies and is on a creek.¹⁹

The first dated experiment for the production of porcelain is noted:

Oct 10th 1826
 Experiments on China
no 1 2 oz caolin
 2 " Feldspar
 1 dram 2 simple Potash²⁰

"Receipts" or formulae "two" through "six" are also concerned with the production of porcelain. Throughout these formulae the proportion of kaolin and feldspar remained constant. The third ingredient, either potash or white lead, was varied. A more elaborate recipe for porcelain

was recorded in the Day Book on November 6, 1826. The composition of the formula was

c 3 Parts Clay from Flood Bank
 c 2 Caolin
 c 1 Silax
 c 1/2 Bones
 c 1/2 Felt Spar²¹

The letters of Benjamin Tucker also reveal insights into the early experiments and production at the Tucker factory. A letter to William Meredith, dated February 5, 1827, contains Benjamin Tucker's apology for contributing only the small sum of five dollars for the relief of suffering Greek women and children, but also took the

...liberty of stating that William is at present engaged with his resources & my own in a laborious & expensive experiment upon the formation of Porcelain and the finer specimens of earthenware, which like all important and untried undertakings has sunk much more capital than was contemplated. But which at the present stage of his operations is reduced to a certainty of success, if his health and the necessary advances should be continued a few months longer.²²

On February 16, 1827, Benjamin Tucker sent a specimen of porcelain to his friends, Isaac and Hannah Jones. The postscript to the letter reported that the sample was from the first kiln-load of china ware manufactured

...by my son William Ellis, who built his first kiln, made his first mould and formed and burnt his first pitcher without the hand of an instructor. The difficulties he has since met with, from the detection of foreign substances in our American materials, that at a high temperature form new chemical combinations, which destroy either the beauty or the texture of the ware has greatly obstructed his progress.²³

The problem of financing the experiments, and later, the production of porcelain was a recurrent one for both William and Benjamin Tucker. On April 24, 1828, Benjamin wrote to his friend, Robert Welch, that from the beginning of the experiments to that date a total of

...more than fifteen thousand Dollars have been expended in bringing it porcelain to its present perfection.²⁴

By 1830 another two thousand dollars had been spent on the porcelain factory.²⁵

The apparent solution to the factory's financial difficulties lay in the acquisition of partners. During the years of operation of the factory, William Tucker worked with a succession of three different partners. All three were sons of wealthy Quaker fathers who purchased the partnerships for them in much the same way that Benjamin Tucker financed his son's enterprise.

John N. Bird of Philadelphia was the first partner in the Tucker factory. John Bird's father, Charles Bird, invested money in the factory in the belief that his son would actually enter the business. The partnership between William Tucker and John Bird was brief and the references to it are few. It began shortly before April 13, 1826, and was dissolved prior to January 5, 1827. On April 13, 1826, William Tucker and John Bird purchased a tract of land in Middlesex County, New Jersey, from John Flood. The land was described as being "...a small distance westerly of the Mutton Hollow brook."²⁶ A news article in the United States Gazette of November 16,

1826, refers to the Tucker and Bird entry in the Franklin Institute competition.²⁷

By the end of 1826 the partnership was dissolving. Benjamin Tucker wrote to his friend and Delaware agent, Benjamin Ferris, to have John Bird's name removed from the deed to the Tucker factory's feldspar quarry near Wilmington, further evidence that Benjamin Tucker constantly protected his and William's investments and interfered in the business. Benjamin Tucker did not want John Bird or Charles Bird to have any claim on the Delaware property.²⁸ Benjamin Tucker wrote that he was

...really happy to hear that the Deed to Tucker & Bird has not been recorded: and I consider it a matter of real importance that a Deed be yet executed by Jacob Way and his wife to William Ellis Tucker, and that the one to Tucker and Bird be withdrawn from the office, if the clerk will permit it without having it recorded; but if he will not then the Deed to William Ellis Tucker be first recorded - should there be no objection to withdrawing the Deed to Tucker & Bird from the office without recording it. I suppose it will still be proper for William to preserve the Deed to Tucker & Bird, and to require John when of age to comply with what has taken place.... and shall be done in dissolving his son John Bird any possible claim. But if the legal title is vested in William by a Deed immediately from Jacob Way & wife difficulties which might otherwise - Therefore without having had the opportunity of counselling William I particularly requested that thou wilt write and have executed a Deed to William immediately from Jacob Way & wife.²⁹

One possible reason for John Bird relinquishing his partnership was his reported ill health.³⁰ Another possible explanation could be that the great financial requirements of the business outweighed the

profits. By February 5, 1827, the partnership was dissolved.

Benjamin Tucker confirmed to Benjamin Ferris that

...a dissolution of partnership between him [Bird] and my son has taken place and his father has engaged under a penalty of Ten thousand Dollars that his son shall make a title upon his coming of age to my³¹ son William of the Real Estate which they hold.

This explains Benjamin Tucker's haste to have the Delaware deed registered in William's name so that John Bird would have no legal claim when he was of legal age.

In an attempt to bolster the factory's finances after the dissolution of the Bird partnership, Benjamin Tucker offered to enter the firm as a legal partner. On January 4, 1827, Benjamin Tucker wrote to William Tucker that if Charles Bird came

...to a final conclusion to dissolve I can for the present take an obligation of thee, for the money which I pay Charles, with a condition of my being permitted to become a partner, it would be altogether proper, upon my receiving what thou wast to give John thou should be allowed the same sum which Charles was to allow thee and that thou should have the whole direction of mixture and of decorating and setting the men to what in thy judgment, appeared best for the interests of the firm.³²

Benjamin Tucker's suggestion did not meet with William Tucker's approval. In answer to William's negative reply, Benjamin Tucker wrote,

From thy communication of yesterday I perceive it is thy wish to stand at the head of an establishment... and to take no partners.³³

William Tucker's independent ownership was, however, of short duration. Economic pressures forced William to acquire a

second partner. That new partner, John Hulme, joined the firm in the spring of 1828. A notice in Poulson's American Daily Advertiser of April 9, 1828, reported that William Tucker had recently "...taken to partnership a young gentleman of talent and enterprise."³⁴ John Hulme's father, Thomas Hulme, a wealthy Philadelphian, bought a partnership for his son by investing money in the Tucker factory.³⁵

The Tucker and Hulme partnership was of an even shorter duration than the association of Bird. The new partnership was dissolved by the summer of 1828. A newspaper notice dated June 10, 1828, reported that the

co-partnership between the Subscribers under the firm of Tucker & Hulme, is dissolved by agreement. All persons indebted to said co-partnership are to make payment to, and all persons having demands on it, are to receive payment from, William Ellis Tucker, who is to settle the business of the firm.

Wm Ellis Tucker
John Hulme
Philadelphia, June 6, 1828³⁶

It also stated:

The business of manufacturing AMERICAN PORCELAIN will be continued by WM ELLIS TUCKER, at the old stand, N.W. corner of Schuylkill Front and Chestnut streets, where he solicits a continuance of that patronage which has been so generously extended to his arduous efforts in bringing to perfection an art which he hopes will be not less production of public good than private emolument. In addition to a general assortment of Porcelain which will be constantly kept on hand, orders to suit the particular taste of individuals, with respect to shape, perfection of finish and pattern will be executed in the neatest manner.³⁷

The last mention of John Hulme in connection with the factory is contained in a letter written by Benjamin Tucker to Richard Rush, then United States Secretary of the Treasury, thanking him for sending

documents on the growth and manufacture of silk. Benjamin wrote "...two of these Documents have been presented to his late partner J. Hulme."³⁸ There is no recorded explanation for the dissolution of the Tucker-Hulme partnership. The most likely reasons are too little profit for the investment required, personal conflict between Tucker and Hulme, and the possibility that John Hulme was interested in the commercial growth of silkworms and the manufacture of silk, which might have drained available capital.

Shortly before the partnership of Tucker and Hulme was formed, William Tucker entered specimens of his porcelain in the Franklin Institute competition of 1826. The award was presented to the New Jersey Porcelain and Earthenware Company. In the 1827 competition the judges awarded the pottery and porcelain silver medal to Tucker for

the best specimen of porcelain to be made in Pennsylvania, either plain white or gilt. This [Tucker] is a manufacture of great importance to the country, as most of the capital expended is for labor, the materials being taken from our soil, in great abundancy and purity. The biggest credit is due to Mr. Wm E. Tucker, for the degree of perfection to which he has brought this valuable and difficult art. The samples (No. 174) of this ware appeared to be strong, and sufficiently well fired, the glaze, generally very good, the gilding executed in a neat and workmanlike manner. Some of the cups and saucers and other articles bear a fair comparison with those imported.³⁹

While the silver medal was the major achievement of the Tucker factory in 1827, the major change in factory operation occurred in 1828. In that year Thomas Tucker joined the factory as an apprentice; he later became chief decorator and manager. Thomas, born in 1812, was the seventh child, and third son, of Benjamin Tucker. In 1879

Thomas Tucker reminisced about his entrance into the Tucker factory:

In the year 1828 I commenced to learn the different branches of the business, which I did by serving several years apprenticeship to the same.⁴⁰

That same year, 1828, the factory received another award from the Franklin Institute

For the best Porcelain made in the U.S. gilt, painted, and plain--one hundred pieces must be exhibited, is awarded to William E. Tucker of Philadelphia for specimen No. 253, being an assortment of porcelain of first and second choice. In awarding this premium the committee feels pleasure in noticing the great improvement which has taken place in the manufacture of their beautiful and interesting product. The judges report that they have compared the sample, called technically 'first choice,' with the best specimens of French china, and found it superior in whiteness, and the gilding well done. The same remark applies to the painting with some exceptions; this part of the process still being susceptible to some improvement. The committee recommend this 'first choice' to the public as of a quality not easy to be surpassed,...⁴¹

Thomas Tucker's entrance into the firm was not, however, greeted enthusiastically. William Tucker did not want his brother to enter the business. Only after Benjamin Tucker paid him an unspecified sum of money was Thomas allowed to join the firm as an apprentice.⁴²

By 1830 Thomas was no longer content with the menial position of apprentice, but wanted to learn the "secrets" of the factory. William Tucker did not agree and Benjamin interceded in Thomas's behalf.

Benjamin Tucker wrote that William's unkindness to

...thy younger brother has been well compensated by the additional interest which is felt by him as evidenced in his ingenious suggestions... and from the general Solitude which he manifests for the promotion of everything connected with the factory-

and I am equally persuaded the time has come in which further information ought to be given him. He is now no longer a child, he has arrived to that age in which his mind is fully capable of comprehending and confining to his own breast every secret process of the art,... from the nature of thy engagement and the uncertainty of life there is cause for anxiety least he should be cutt off from a knowledge of the essential part of his business; after having devoted so much of his youth to its labors as to deprive him of the power of going to any other trade-a week or ten days since I heard him lamenting that he was totally ignorant of every essential part of his profession and without any possible inconvenience to thyself thou will give renewed animation to his exertions by completely initiating him into the mysteries of the art; so that no accident can deprive him of the reward to which he is entitled.⁴³

William Tucker did not completely accept his father's suggestion, and Benjamin responded with a second request, in which he stated:

In my request of the 19 that thou would impart to my son Thomas at this time a full and perfect knowledge of the component principles and proportions of those principles which are necessary to the making a perfect china, I had no other views then than of removing from his mind a solicitude which I feared would discourage his exertions in promoting thy interest and of removing the possibility of accident or casuality from preventing his acquiring that knowledge relative to the manufacturing of china. I designed him to learn in placing him to that business- But as thou art apprehensive he might possibly make an improvident use of such knowledge before he is twenty one years of age, and hast engaged thee to give it to him, and (by the information from thee), to prevent accidents thou hast yesterday recorded all the particulars of the Art and placed the record amongst thy private papers (accessible in case of thy death) I am perfectly satisfied to let the matter rest with the above understanding.⁴⁴

In 1830 William Tucker received an invitation to move his operations from Philadelphia to Louisville, Kentucky. On December 4, 1830, Benjamin Tucker wrote to Jonathan F. Anderson, of Louisville, and declined the offer, but noted

My son William Ellis Tucker has mentioned to me a proposition which he says he received from thee on behalf of a company with respect to the establishment of a porcelain manufactory at Louisville. But from the necessity and advantage of continuing his own establishment in this City it is out of his power to accede to your proposal, that he has however upon the condition of receiving \$5,000 offered in addition to superintending the procuring proper materials for you, and suitable machinery agreed to impart by practical operation at your Factory to a suitable person or persons of your choice a full knowledge of the difficult process of manufacturing American porcelain from American materials.⁴⁵

William Tucker's proposal seems to have been an attempt to bolster the ever-present difficulties in financing the factory. The economic strain also affected Benjamin Tucker's personal finances. In 1830 Benjamin wrote to Samuel Brooks in an attempt to collect an 1816 debt of \$105.24 owed for crockery purchased from Benjamin Tucker's china store. He wrote:

...from the advances I have made for my son William and his important establishment for the manufacture of American Porcelain, and the discharge of my own debts the recovery even of the above sum [\$105.24] would confer a sensible benefit.⁴⁴

The financial plight of the factory increased in 1830, prompting William to seek aid from the United States government. William Tucker wrote to President Jackson:

Permit me to present the accompanying small specimen of American porcelain, manufactured from American materials, and made in part by American workmen who have been taught the difficult branches of the art in my establishment since it was first founded in the city of Philadelphia, after...years of unceasing personal devotion... it is consistent with the policy of the government of my country to give such encouragement to the establishment as will enable me to erect a factory and bring the article into more general use than my present limited finances will permit, it will not only seem a discovery to the country which will open a new source of useful and extensive employment, but will in time, from the genius of our American youth in the formation of the article, enable the United States to compete with France in every part of the world in the excellence and in the abandonment of the manufacture....I am emboldened to present the following proposition for your consideration and with profound respect submit to your superior wisdom & judgment to dispose of it as you sense of the interests of the country may justify. viz, In consideration of twenty thousand dollars being served to me by Congress, I will bind myself to impart to the Government of the United States after receiving the sum a complete and perfect knowledge of every branch of my business in the formation of American Porcelain, so that the discovery shall for ever be secured to the country.⁴⁷

President Jackson rejected the offer on the grounds that it was constitutionally impossible to aid a private business.⁴⁸

On January 31, 1831 both William Tucker and Benjamin Tucker wrote letters to General Mark and General Bernard, the Senators from Pennsylvania, and to Judge Joseph Hemphill and Joseph Sutherland of the United States House of Representatives. William Tucker's letter conveyed

...a proposition to Congress, that if they would give me \$40,000 to enable me to put up a handsome manufactory, and to increase my business I would convey to the United States, a complete description of the

difficult art of making porcelain, so as to secure for ever the benefit of the discovery to our country.⁴⁹

This offer was also declined.

The letter to Joseph Hemphill produced the only profitable result. He became interested in the firm and bought a partnership for his son, Alexander Wills Hemphill, on May 31, 1831.⁵⁰ A notation in the letter book of Benjamin Tucker reports: "William Ellis Tucker informed me he has entered into partnership with Alexander Hemphill with the consent of Judge Hemphill."⁵¹

Of the three partners, Joseph Hemphill was the most influential.⁵² His investment of seven thousand dollars provided the means to permit the relocation of the factory and increase the quality of production.⁵³ The agreement provided that

Joseph Hemphill of the said city, Esquire and William Ellis Tucker of the said city Porcelain Manufacturer...In equal moieties as tenants in common and not as joint tenants all that certain lot or piece of ground situate on the south side of Chestnut Street and on the west side of Schuylkill Street and on the west side of Schuylkill 6th street in the City of Philadelphia.⁵⁴

The quality of porcelain produced during the partnership was noted in the Franklin Institute awards of 1831. The judges reported that the

Beautiful display of porcelain ware by Messrs. Tucker and Hemphill, of Philadelphia, show that this establishment maintains the high reputation which they have already acquired and fully justify the encomiums and medals awarded to them at our former exhibition (honorable mention).⁵⁵

While Benjamin Tucker was pleased to welcome Joseph Hemphill as a much-needed partner, he did not want William Tucker to forget his obligation to his brother Thomas. A letter, dated May 20, 1831, began,

My dear Son Wm Ellis Tucker
 If thou hast not already it will be proper previous to making a close of thy statement to Judge Hemphill, to let him know that in consideration of a compensation allowed thee, thou art obliged to initiate thy brother Thomas into all the mysteries and the art of a perfect porcelain manufacture, with an engagement to take him into the concern.⁵⁶

The possibility of the Tucker factory's financial solvency and success was greatly improved, but the possibility was short lived. On August 22, 1832, William Ellis died. Poulson's American Daily Advertiser printed a short obituary:

DIED, on the 22nd inst at 4 o'clock, A.M. of Remitting Fever, in the 33rd year of his age WILLIAM ELLIS TUCKER, Porcelain Manufacturer. His friends and those of his father's family are particularly invited to attend his funeral from the residence of his father No. 44 north Fifth Street, this afternoon, at 4 o'clock.⁵⁷

In his last will and testament William Tucker left his share of the Perth Amboy clay beds

...to my partner Alexander Hemphill and his father Joseph Hemphill Esq. or to either of them as may be directed by the said Joseph Hemphill.⁵⁸

Joseph Hemphill became the legal owner of the factory and its outlet store, while Benjamin Tucker retained the executor's rights to the factory.

Shortly after William's death, the Franklin Institute awarded

an honorable mention to

Joseph Hemphill of Philadelphia for No 76, various samples of American porcelain, in the moulding and glazing of which great improvement has been made since the last exhibition; the body of the article is considerably equal, if not superior to that of the imported.⁵⁹

While the Franklin Institute acknowledged the sole ownership of Judge Hemphill, it was not until 1833 that he assumed complete control of the factory. On that date Hemphill paid ten thousand dollars to the estate of William Tucker for William's share of the factory.⁶⁰ Thomas Tucker was retained by Hemphill as superintendent. After the death of Alexander Hemphill in 1833, Judge Hemphill brought his second son, Robert Coleman Hemphill, into the business. Lacking an interest in the operation of the factory, the younger Hemphill was a partner in name only. Although Thomas Tucker was an employee of Hemphill, he assumed control of the factory's production. The factory continued in operation until 1837 and porcelain was entered in the Franklin Institute competitions of both 1835 and 1836.⁶¹

In 1835, the Tucker porcelain factory, by an act of the Pennsylvania Assembly, was incorporated as the American Porcelain Company. The articles of incorporation provided that

... The said company in the name and style of the American porcelain Company . . . shall have the further right . . . to rent or purchase, in fee simple, the existing factory and house adjoining, at the corner of Schuylkill Sixth and Chestnut streets, in the city of Philadelphia, with such other ground as may be deemed necessary, also to purchase and hold, as

aforesaid, quarries of feldspar, beds of kaolin and clay and to procure every material used in the manufacturing of Porcelain, either plain, white or decorated with paintings and gilding, and all the machinery, apparatus, tools, and utensils required for the above purpose, and to employ all such workmen, tradesmen, painters, gilders and other artists of every description that may be necessary to carry on the establishment, ... they shall have the right to purchase the American Porcelain on hand at the above factory, whether finished or in an unfinished state.⁶²

Thomas Tucker was employed as the factory manager for the new concern, but for a payment of five thousand dollars he contracted to disclose the "secrets" of the materials, proportions, and mixtures for the manufacture of porcelain. He further contracted that for a period of five years he would not divulge the secret information to any other individuals or factories.⁶³

Personal financial demands on the various stockholders prevented the actual formation of the new company.⁶⁴ Joseph Hemphill's growing financial problems forced him to dispose of the expensive porcelain factory. In October, 1837, the factory was leased to Thomas Tucker for a period of six months. Actual production of porcelain continued for a year. Beginning in 1837, Thomas sold those wares at his new china store, located at 100 Chestnut Street.⁶⁵ In addition to the porcelain he made, Thomas sold imported European china. His trade card read:

THOMAS TUCKER
IMPORTER OF
FRENCH PORCELAIN & ENGLISH CHINA

NO. 100 CHESTNUT STREET
PHILADELPHIA⁶⁶

In 1841 Thomas sold the contents of the china store at public auction and entered the cotton business which he pursued until his death in Philadelphia in July, 1890. Tucker family tradition suggests that Thomas's wife, Mary Earp, whom he married in 1838, disapproved of the porcelain business and persuaded him to retire from its manufacture and sale.

The operation of the Tucker factory ended after a period of twelve years of moderately successful commercial production. The failure of the Tucker factory can be traced to many causes: the tariff controversies of the period 1825-1833, which resulted in strong competition from imported porcelains, the deaths of William and Benjamin Tucker, and the bank failures of the period 1833-1837.

In the 1830's Senator Smith of Maryland introduced a bill for the abolition of duties on all imported china and porcelain. American pottery manufacturers, such as the Tucker factory, believed that such a provision would destroy the market in the United States for domestic porcelain. A letter to Senator Bernard states William Tucker's view:

I observe that china or Porcelain has been enumerated in the list of articles brought before the Senate by Mr. Smith of Maryland for the purpose of effecting a reduction of duty. Permit me... to state that such a measure would completely destroy my business and crush my establishment.⁶⁷

Tucker desired that the current twenty per cent tariff on imported porcelain be raised.⁶⁸ Although the attempt to lift the duties was not

successful, a protective tariff for American ceramics was not enacted. Tucker could not financially compete with the European goods because his production costs were higher than those of the larger European factories. Also, as Abraham Miller had previously noted, European factories could afford to, and did, undersell the American product. The results of such competition are obvious.

As the dominant force and major partner of the factory from its inception until his death in 1833, Benjamin Tucker provided capital, obtained partners, initiated factory bills and correspondence, and provided vital moral support and encouragement.

The final death blow to the failing factory came in the financially chaotic period of 1833-1837. With the failure of the rechartering of the United States Bank and the eventual bank debacles of 1833 and 1835, many Philadelphians sustained heavy financial losses. Joseph Hemphill was financially ruined. The porcelain factory was an expensive hobby instead of a lucrative investment.

The Tucker factory, which began on a shaky financial foundation, ended in financial disaster. It is surprising that a company so overwhelmed with financial crises during much of its twelve year history could have produced such a sizeable quantity of high quality porcelain. Credit for these successes must be given to the foresight, talent, and determination of four men -- William Ellis Tucker, Benjamin Tucker, Thomas Tucker, and Joseph Hemphill.

Chapter III

MATERIALS AND FORMULAE OF TUCKER PORCELAIN

Successful production of "true" porcelain requires the availability of two ingredients - kaolin and feldspar. Kaolin (or china clay), which constitutes the body of the porcelain, results from the decomposition of granitic rock (silica and alumina are its chief ingredients).¹ Feldspar furnishes the porcelain with its characteristic vitreous quality and translucency. Attempts to locate and acquire the highest quality and least expensive raw materials for the Tucker factory were limited to the four most convenient states -- Pennsylvania, Delaware, New Jersey, and New York.²

Pennsylvania was the major source of the kaolin used in the production of Tucker porcelain. In the early 1820's, while digging post holes on his farm, Israel Hoopes, a West Chester farmer, discovered a white clay which proved to be a good quality china clay.³ William Tucker became aware of the clay and leased a section of Hoopes's farm which contained the kaolin. The agreement between Hoopes and Tucker, executed in 1831, provided for a fifteen-year lease at a cost of two hundred dollars.⁴ The kaolin deposits were located on a three to four acre section of land enumerated in the lease agreement.⁵

It is believed that, before 1831, the Tucker factory purchased the clay from Hoopes, but increasing production made this simple sales agreement unacceptable. An undated note in William Tucker's Day Book, written prior to 1831, states that a sample of West Chester kaolin was

...handed us by Mr. Bird [.] Belongs to Mr. Hoopes
Chester County 12 miles from Wilmington near the
Delaware line price \$125 for five wagon load.⁶

By 1831, expanding operations must have made Tucker aware that a purchase or lease of the kaolin beds would be more convenient and less expensive than the purchase of the material by the wagon load.

While the majority of the kaolin utilized in the production of Tucker porcelain came from the farm of Israel Hoopes, other entries in the day books of William Tucker and Thomas Tucker reveal that the factory considered other geographic areas as possible sources for raw materials. The brief entries are in the form of notes and reminders for further reference as possible locations of the necessary ingredients.

An entry in the Day Book of Thomas Tucker suggests a possible source for kaolin:

White kaolin - John Pennington West Grove London Grove
township Chester County Penn. West Grove Post Office
July 1837 appears to be very good.⁷

The search for raw materials also brought William into contact with other potters. His Day Book records a possible contact with John Vickers, the potter. Whether the two men actually met or exchanged

ideas is only speculative, but Tucker was aware of the Vickers production and the quality of his raw materials. William Tucker wrote:

Charles Lawrence told Mr. Matters that Mr. Vickers a potter near Downingtown on the Lancaster Road that knew of a clay or sand⁸ that would fuse in a common Potter's kiln.

Another possible source of raw materials in Pennsylvania is recorded in the Day Book. The entry states:

A Gentleman Informed me in Middletown Township Delaware County, Pennsylvania on a Place⁹ owned By Abner Malen there was felt spar sic .

The only other entry concerning the location of Pennsylvania raw materials appears to have been the result of William Tucker's own efforts, rather than the suggestion of a third party. The entry states:

have my self WT [William Tucker] by the Darby road near Darby on the left hand side going- indications of kaolin.¹⁰

While the first major ingredient of Tucker porcelain, kaolin, was principally obtained in Pennsylvania, the second major ingredient, feldspar, was obtained in Delaware. William Tucker purchased a feldspar quarry located on the farm of Jacob Way near Wilmington. The deed was executed in 1827. For a sum of two hundred and seventy dollars William Tucker acquired, "four acres one quarter and two perches of land."¹¹

A single sheet in the collection of the Tucker papers provides directions to the feldspar quarry. Under the heading, "Jacob Way - Christiana Hundred New Castle County State of Delaware - about 6 miles

from Wilmington.", the entry reads:

You go to Wilmington, then take the main street continue out until you come to the post this side of the Brandywine-turn to the left and continue out the turnpike about 4 miles until you come to a wheel wright shop then turn to the left and continue for about one or two miles which will lead you to Jacob Way's farm.¹²

Edwin Atlee Barber, author of Pottery and Porcelain of the United States, stated that on October 23, 1826, Tucker also purchased four acres of land which contained a feldspar quarry from Alexander Dixon of New Castle County, Delaware. The Tucker family papers contain no mention of that transaction. The only reference to the Dixon quarry is in the Formula and Price Book of Thomas Tucker. The notation is:

Mess. Tucker and Hemphill Spar quarry is on Jacob Ways farm Six miles from Wilmington Mr. Dicksons [sic] farm opposite to Jacob Ways contains a large quarry of feldspar.¹³

The major source of raw materials in New Jersey was located near Perth Amboy. A blue clay or fire clay was obtained from the farm of John Flood.¹⁴ Reference to the farm and the sales agreement is in the Last Will and Testament of William Tucker, who wrote:

...one half of a certain lot of land containing one acre more or less situated in Mutton Hollow in the state of New Jersey, purchased by John N. Bird and myself, of John Flood and Elizabeth his Wife. The Deed for which was entended to be recorded in Middlesex clerks Office on the 2nd of April 1826.¹⁵

Thomas Tucker's notebook provides further information on this source when he writes:

Blue Clay on Floods farm four miles from Perth Amboy is well acquainted with the clay beds.¹⁶

Other references to the possibility of utilizing sources of raw materials in New Jersey can be found in the Day Book of William Tucker. The references are in the form of sketchy notes. The first entry is concerned with Samuel G. Wright, a Philadelphia merchant.¹⁷ The entry states, "Samuel G. Wright has purchased Land in New Jersey said to have fine Clay in it."¹⁸ Later Tucker noted:

Clay mentioned by Samuel G. Wright Six miles from south Amboy on the turnpike there is a Tavern James Brown keeper - enquire for Arrarat Creek on Montgomery's or Wright saw Mill - the Clay is on the east side of the pond Darker clay at Amboy burns White.¹⁹

"Said to be fine clay at Bordentown", is the next entry in William Tucker's notebook.²⁰ Apparently he experimented with this Bordentown clay; his Day Book contains the note: "Clay obtained by me from Bordentown 1/4 or 1/5 silax."²¹

New York was another source of raw materials for the factory. Heavy flooding in 1830 in the West Chester, Pennsylvania, area forced William Tucker to obtain kaolin from the Salamander Works in New York City. The letter book of Benjamin Tucker contains numerous correspondence with the Salamander Works throughout that year.²²

In addition to advice concerning the sources of raw materials, William Tucker received numerous suggestions for possible "receipts" and formulae. These suggestions related to ceramic bodies, glazes, and

enamels. In 1827 he received a letter from a Philadelphia merchant, William Boyd. The letter typifies the advice offered to Tucker.

Boyd's letter begins with the notation:

yellow - Naples yellow
Green for edging - Copper calcined and
mixed with cream colored glaze

Mr. W. E. Tucker

The above was communicated to me some years ago when I visited the Staffordshire Potteries, by a practical manufacture, and if the hints are any way serviceable to you or your establishment it will give me great pleasure. We are so dependent on foreign countries for our supplies of porcelain and Earthenwares that any exertions should be made to procure these articles from domestic sources I am happy to find that the progress you have made at your manufactory near Schuylkill is producing fine specimens of China to be of great importance and I hope will profitably reward you for your attention and perserverence in so interesting a business.

Philadelphia March 14th, 1827
Wm Boyd²³

Further advice appeared in an anonymous memorandum to Tucker:

Manufacturer of Porcelain near Schuylkill
Memorandum of the mixture of Clays & c in
the manufacture of Earthenware-communicated
by a Staffordshire Potter

Cream colored body

The Clay is mixed with water until a pint of the wash (called by the potters slip) will weigh 24 oz. It is then sifted through a fine Lawn. To every 5 Gallons of this wash put 1 gallon of flint, the pint is to weigh 32 oz. the whole is then sifted a second time, put upon the slip kiln and dried to the state of clay.

The Clay for printed ware is prepared in the same manner as above but previously to putting the flint to the wash add to every 5 Gallons of cream colored wash 1 Gallon of china clay wash, the pint to

weigh 24 oz and afterwards add to every
4 gallons of this wash, 1 Gallon of Flint
(of necessity ground)

To make Cream color'd glaze

114 lbs dried Litharage or
white lead

50 lbs Cornwall stone ground
and dried

22 lbs Flint Do Do

Printed Glaze

60 lbs Lead (white)

34 lbs. Cornwall stone

11 lbs Flint

10 lbs. Blue tinge wads with

the glaces of Zaphers

Glass, red lead, and

melted together in the

glazing kiln, ground and

dried. The Blue paint

in the Calx of Zaffre,

procured from Saxony,

the preparation of which
chemists are acquainted with.²⁴

Additional discussions of creamware, the first product of the
Tucker factory, are found in William Tucker's Day Book in a memorandum
titled "Some remarks made by Wedgwood as copied from Wm Rotches letter."

According to the memorandum, Wedgwood remarked to Rotches that

Flint used in making Queens ware must be
from Beds if exposed to the air they would
not answer-admitting the clay to be very
fine and tough & the flint good to determine
the proportions is impossible that nothing
but long experience can teach a man that
knowledge and even with an experienced man
they sometimes loose an oven full of ware.
the quality of the Clay will be so different in
the same pot in the different strata that no
proportion can be described. There is some
kinds of clay that require as much as 1/3
Flint. The use of the Flint is to break
or back the grain of the clay & to give the
fine hard body and consistency to the ware-
and in a few inches from that kind of clay
there may be another quality which 1/3 part

Flint would break into a thousand pieces in the oven... If too small a portion of flint be used the ware appears rayed & the colouring imperfect & some parts of it of a coarse porous substance. the proportions vary from 1/3 to 1/8 more generally 1/5. The flint is to be burnt in a kiln like limestone then ground with stones in water very liquid after the clay and Flint are made a thin liquid separately, they are mixed in due proportions found necessary according to the quality of the clay. After being well mixed they are passed through the finest silk Lawn so fine that they are many thousand holes in one square inch after this it is supposed sufficiently fine & is then placed on large plates, under which are applied fires to evaporate the water until it has sufficient consistency to be formed on the wheel. The best glazing for the ware is four parts of white lead and one part flint well mixed.²⁶

The formula books of William Tucker and Thomas Tucker contain hundreds of recipes for ceramic bodies, enamels, and glazes. The Day Book of William Tucker begins with this recipe for creamware. The preferred creamware formula was taken "from Wm Shufflebottom's Book." The formula consisted of

2 lb. blue Clay
 2 lb. Fine white clay
 2 do Flint
 4 do Composition stone
 4 do Bones²⁶

and

No2
 1 lb Blue Clay
 1 lb Fine White Clay
 6 lb Composition stone
 4 lb. Bones calcined²⁷

An additional creamware recipe in the Day Book of William Tucker was "Wedgwood's Receipt by Doct Harwood Boston." This recipe consisted of

Blue ball or Pipe Clay 8 lbs.
 fine Graffit Granit (china) 5 lbs.
 Plate Glass - 1/5 lb.
 sea sand or glass blowers sand 4 ounces²⁸

The formulae and recipes for creamware appear to be confined to the earlier period of experimentation and production: 1825 and 1826. By September, 1826, William Tucker directed his attention to the production of porcelain. Tucker's earliest recorded formula for porcelain was a combination of

2 lbs Caolin[sic]
 2 " Felt spar[sic]
 1 " Bone²⁹

Starting with this standard formula, Tucker experimented by adding minor materials and varying their proportions. One recipe, referred to as "China Practical good," was composed of

2 1/4 lbs Caolin
 2 lb Felt Spar
 1/2 lb Bones
 3/4 lb Flint good measure³⁰

After experimenting with approximately twenty porcelain recipes, William Tucker selected one particular mixture as his "secret formula" for his porcelain body. Its composition was

500 lbs dry Kaolin
 65 " " Bone "calcined"
 3 1/2 Buckets Feld Spar even full "calcined"
 2 Buckets Silix even full "calcined"
 The above is to be mixed together with water to the consistency of cream - then passed through Bolting cloth No. 9 then

evaporated to a consistency for use - then to be well kneaded by a man with his feet - then to be put away into a large Box to remain some days before using - as it will work much better than it will if used too soon - before using it is to be well beaten with the hands until all the air is out of it.³¹

The porcelain glaze selected for use by the factory was a combination of

2 bucket Feldspar
5 lbs Kaolin
10 lbs China
7 lbs Flint
4 lbs Borax³²

The exact sources for the formulae of the body and the glaze of Tucker porcelain have not, as yet, been discovered. Information relating to the sources of the enamel recipes would tend to indicate that the glaze and porcelain body recipes were not entirely original to William Tucker and his factory.

The Tucker factory's enamel colors and fluxes did not result from experiments, but were copied exactly from Robert Wynn's book, On the Preparation of Enamel Colours, and Fluxes and the Vehicle for laying them on With.³³ Originally published in London in 1816, the book was reprinted in Philadelphia in the 1820's and was available in the library of the Franklin Institute.

Both William and Thomas Tucker took precautions to keep their formulae secret, and yet the majority of their recipes were available in books on chemistry and pottery. This desire for secrecy extended to the invention of a secret code by Thomas Tucker. The code consisted

of a substitution of numbers for letters and letters for numbers. The key to the code was

A 1	F 6	K 10	P 15	U 20	Z 25
B 2	G 7	L 11	Q 16	V 21	
C 3	H 8	M 12	R 17	W 22	
D 4	I 9	N 13	S 18	X 23	
E 5	J 0	O 14	T 19	Y 24	34

Before being deciphered, the secret formula for the Tucker china body appeared as:

3.8.9.13.1.2.14.4.24 Octo, 20th 1830
Left to me by Wm Ellis Tucker dec

E.JJ. 1b 10.1.14.11.9.13
FE. 1b 2.14.13.5
Ca buckt 6.5.11.4.18.15.1.17. even full
B. do 6.11.9.13.19.³⁵

Translated, the formula becomes:

China Body Octo 20th 1830
Left to me by Wm Ellis Tucker dec

500 lb Kaolin
65 lb Bone
3 1/2 buckt Feldspar even full
2 do Flint

Other secret formulae exist for gilding for china, gold flux, china glaze, fire brick, and saggars.³⁶

Most likely this secrecy was an attempt to keep factory employees from stealing the company recipes and establishing their own factories. The analysis of the Tucker formulae and recipes is by no means complete. The scope of this thesis does not permit the complete chemical analysis of these recipes.

Chapter IV

ORGANIZATION OF FACTORY, AND ITS OPERATION

The production of Tucker porcelain is divisible into two periods: 1826-1831 and 1831-1838. In the first period, the factory was located in the old city water works at Twenty-Third and Chestnut Streets, Philadelphia. Early in 1826 William Tucker obtained the property, probably by lease, from the Philadelphia City Council.¹ A vase manufactured at the Tucker factory provides pictorial documentation of the first buildings.² The vignette painted on the side of the vase features a square building with battered walls. Attached to the building are two smaller buildings: one with a flat roof and the other, a hipped roof building, showing the top of a kiln smokestack. Three small white pitchers are shown drying on a fence, prior to their being fired.

One of the earliest references to the existence of the Tucker factory appears in the note book of William Tucker. The entry appears under the heading, "Experiments made at Tucker and Birds China Factory July 10, 1826."³ Porcelain production during the summer of 1826 was limited to a few experimental pieces.

Three small pitchers, products of the Tucker and Bird factory, were entered in the Franklin Institute competition of American

manufacturers, which took place October 3 through 6 of that year. An article, concerning the Tucker and Bird entry, in the United States Gazette of November 16, 1826, reports;

These [three small jugs] do not exhibit any improvement of a decisive character over the small specimen exhibited by others pottery entries at the exhibition of 1824. The manufactory of Tucker & Bird was incomplete when this ware was made, their kilns not being finished. The sample presented could not therefore be taken as a specimen. We have no doubt the next exhibition will present an interesting display from the works of these gentlemen.⁴

Without the necessary kilns, the large-scale, commercial production of Tucker porcelain would not have been possible before October, 1826.

While production of porcelain may have begun in 1826, it was not until 1831 that the factory acquired a listing in the Philadelphia City Directory. The listing reads "Tucker, W.E., china manf. Chestnut & Sch. 2nd."⁵ The absence of newspaper advertisements and commercial listings would imply that, prior to 1831, the Tucker factory was a small enterprise limited to a few standard designs and special order commissions; at least, they appear to have had no advertising requirements.⁶ The early products were limited to pieces with gilt decorations, crude landscapes, and polychrome groupings.

In May, 1831, Judge Joseph Hemphill became a partner in the Tucker factory. For the sum of seven thousand dollars Judge Hemphill acquired the partnership for his son Alexander Wills Hemphill. The new influx of money and the subsequent relocation of the factory provided more space than the former site and permitted the construction

of new buildings, slip pans, and three new kilns.⁷

The types of equipment used and the arrangement and operation of the new factory may be ascertained from the drawings of Thomas Tucker. These drawings, both watercolor and pen-and-ink, document the mechanical processes involved in the production of porcelain at the Tucker factory.⁸

When the raw clay was delivered to the factory it was placed into a clay mill and, with the addition of water, it was milled or mixed until it had reached the desired state of plasticity. The clay mill consisted of a wooden tub or barrel four to five feet in diameter and three to five feet high.⁹ Blades or knives were attached to a post in the center of the barrel. The blades rotated and churned the clay when the "sweep" or cross-bar was pulled around in a circle by horse or man power. Thomas Tucker's drawing of the factory mill room (Plate I) illustrates this system. The Tucker clay mill utilized two horses as power and made use of double mixing barrels.

After the clay had been thoroughly mixed with water it was drained from the barrels and taken to the mixing room (Plate II) where various ingredients, such as feldspar and bone ash, necessary for the production of a porcelain body, were added. Dimensions of a typical mixing pan were five feet long, three feet wide, and two and a half feet deep.¹⁰ The finished clay was pounded and kneaded on a marble slab to work out the air bubbles which might have formed.

Formation of the finished pieces by casting in molds or throwing

on a wheel was the next stage in the production of the porcelain. With the exception of one mold for a heart-shaped perfume vial, none of the factory's molds survive. The presence of seam lines on several Tucker pitchers and vases indicates the use of slip molds in the fabrication of the porcelain.¹¹ A note in Thomas Tucker's Day Book suggests that the factory may have produced their own molds. Under the heading "Wash for making moulds", Thomas Tucker wrote, "To prevent the mould from sticking to the model a mixture of water soap and sweet oil heated."¹² This statement would mean that, in addition to molds and models created for the factory, the Tucker factory could have made molds from many different objects - silver or other metallic objects and existing ceramic pieces. Such a possibility may explain the similarity between many French and English ceramic objects and those by Tucker.¹³

Once the porcelain was shaped it was ready to be fired to a biscuit state in the kilns. Several of Thomas Tucker's proposed designs for kilns survive. The kiln design that was finally selected (Plate III) was a down-draft kiln divided into two sections, a biscuit section and a glaze section, a type frequently used. These designs for kilns were not the result of Tucker's imagination or experimentation, but were copied from generally available books on the chemical arts and manufacture.¹⁴ The kiln (Plate IV), labeled "French Plan of Glaze Kiln", closely resembles the kiln design pictured in the 1771 edition of L'Art de Porcelaine by the Count de Milly.¹⁵

After the biscuit firing the porcelain wares were dipped in a

feldspathic lead glaze and fired for the second time. The procedure for "burning" the glaze kiln was to

commence at 3 o'clock AM with a small fire increase gradually until 2 o'clock PM when the fire holes are to be filled stopped up flues in the globe at 9 o'clock next morning - kiln finished at 20 minutes before 2 o'clock PM.¹⁶

An important insight into the cost of producing one kiln-load of porcelain is provided by a note written by Thomas Tucker. The note lists the costs as follows:

Cost of making ware in one glaze kiln	\$67.00
10 cords of maple wood at \$5 per cord	50.00
Sawing splitting and piling ditto	10.00
Setting up materials	10.00
Grinding and preparing ditto	12.00
Making saggars and ows	2.00
Grinding ditto	4.00
Preparing Glaze	6.00
Glazing Kiln	9.00
Setting and Burning Kiln	20.00
Drawing Kiln	5.00
Interest on buildings c&c	<u>\$134.00</u> ¹⁷

After being fired and glazed, the wares were enamelled by the decorators and placed in the enamelling kiln (Plate V). The heat necessary for "fixing" the enamels to the porcelain body is less than the heat required for the glazing and, as a result, a more simple up-draft, single-flue kiln is used. The directions for firing the enamel kiln were to "set fire at 8 o'clock AM red at 11 o'clock finish at 2 o'clock PM."¹⁸ The final stage in the production of the porcelain involved the application and burnishing of the gold decorations. The material was mixed with gold flux and turpentine as a medium of application; after firing, the gilding was polished with a burnisher.

The operation of the Tucker factory and the manufacture of porcelain necessitated the employment of a large number of workers. The letter books and business records of Benjamin, William, and Thomas Tucker contain no mention of factory workmen by name or occupation; therefore, knowledge of the Tucker employees must be obtained from other sources.

In 1830, United States Census Records list seven male apprentices living at William Tucker's residence at 4 Clinton Court.¹⁹ All were between the ages of fifteen and twenty years of age. The senior editor of the West Chester Republican and Democrat, after visiting the factory, related that, "...this establishment gives employment to about forty persons."²⁰

Edwin Atlee Barber in the comprehensive Pottery and Porcelain of the United States, published in 1893, records the first listing of many of the workers by name. George Morgan who turned a wheel for one of the Tucker potters was still alive in 1893 and provided Barber with the names. The list included John Basten, George Morgan, Joseph Morgan, Andrew Craig Walker, Isaac Spiegel, Jacob Baker, William Hand, Thomas B. Harned, Charles Frederick, Vivien, Charles J. Boulter, and William Chamberlain.²¹

More detailed information concerning a few of the workers and their products is available. John Basten, an Englishman, is listed in the Philadelphia City Directories as a potter.²² As the foreman of the factory, Basten's name is not connected with any individual pieces of

porcelain. George Morgan turned a wheel for one of the throwers. Joseph Morgan, a molder, probably marked his wares with an "m" or an "m" scratched under the glaze, as are all the worker's marks.²³ Andrew Craig Walker, the most famous of the Tucker molders, probably marked his wares with a "W", "W", or "W".²⁴ It is not known whether these two molders produced their own molds or merely used the molds. Isaac Spiegel and Jacob Baker tended the kilns and superintended the preparation of the clays. William Hand probably signed his wares with an "H" or an "I", and Charles Frederick's wares are marked with an "F" written in script or a "CF".²⁵ William Chamberlin was employed as a decorator, but the Philadelphia City Directory of 1835-1836 also lists him as a brickmaker.²⁶ This fact may not be inconsistent when it is seen that fire bricks were a major product of the Tucker factory.

Charles J. Boulter, a potter, worked in the Tucker factory from 1828 until it closed in 1838. Then, Boulter became the foreman in the pottery manufactory of Abraham Miller and, when Miller died, Boulter succeeded to the business.²⁷ A porcelain pitcher in the Metropolitan Museum of Art, made by Charles Boulter in 1840, closely resembles a Tucker Grecian-shape pitcher. This could lead to the question of whether many pieces of porcelain, hitherto classified as Tucker porcelain, might actually have been produced by ex-Tucker workmen after the factory closed in 1836.

The identity of "Vivien" has presented many unanswered questions. The first is whether "Vivien" was the worker's first or last name. This question is answered by a study of the Philadelphia Municipal

Court Records. In an 1830 court case Lamontagne Vivien sued William E. Tucker for three hundred dollars.²⁸ The entry also provides the answer to the other problem surrounding Vivien: it has always been assumed that, when Judge Joseph Hemphill joined the firm, Vivien and other foreign workers were imported from England, Germany, and France. Since Hemphill did not become a partner until 1831, it seems unlikely that Vivien could have been brought to America by Hemphill.

The most plausible explanation is that Tucker's foreign workmen came from the Jersey Pottery and Porcelain Company. The Jersey factory had imported foreign workers and, when the company went out of business in 1827-1828, it seems reasonable to assume that some of the workers may have secured employment in the Tucker factory.

William E. Tucker preferred American workmen over those from Europe. In a letter to Jacob Lewis of Louisville, Kentucky, Benjamin Tucker stated:

...you need not be concerned about getting workmen to perform many of the other processes; the enterprising genius of Americans, if they are called in at a proper age will furnish you with equally excellent, and much more confidential workmen than you can generally speaking obtain from Europe - some of the apprentices that my son has brought up under his own hand fully justify this statement.²⁹

Tucker workmen were paid on a piecework basis. The records of Thomas Tucker reveal the prices paid for turning, painting, and burnishing. Under the heading, "Prices for Turning Sept. 26th, 1832", Thomas Tucker recorded:

Prices for Turning	cents
Large coffee pots	20 each
Mantles largest size	8 "
do 2nd	6 "
Oyster dishes	25 "
slop bowls	4 "
Moulded & throwed cups	1 "
" " saucers	1 "
Turned " cups	2 "
" " saucers	2 "
Large plates	4 "
" soups	4 "30

In the same formula and price book Thomas Tucker wrote:

Phila Sept. 26th, 1832	cents
Prices for Painting	
Landscapes	4 each
Phoenix	2 do
Bands	8 do
Best groups	18 3/4 do
Common do	12 1/2 do
Fruit baskets	18 3/4 do
Mantles richly ornamented	25 do
Cyphers from 1 to 4	2 do ³¹

The prices paid for burnishing were also performed on the piece system. Thomas Tucker listed them:

	cents
Band Teas	24 doz
do Muffins	12 "
do Coffee pot	4 each
do cream	2 "
do cake plate	2 "
do slop	2 "
do Teapot	4 "
do Sugar	4 "
Phoenix Teas	48 doz
do muffins	24 doz
do coffeepot	6 each
do cream	4 "
do cakeplate	4 "
do slop bowl	4 "
do Tea pot	6 "

do sugar	6	"
Band mantle	4	"
full gilt do	9	"
Fruit Baskets	12 1/2	"
\$10 Jugs	15	"
Band Jugs	6	"
Vase full gilt	15	"32

The arrangement, operation, and workmen of the Tucker factory are only as important as the explanation they provide of the wares or products of the manufactory, the design sources, and the retail sales.

Chapter V

PRODUCTS OF THE TUCKER FACTORY

Detailed design books drawn by Thomas Tucker, in addition to the great quantity of surviving Tucker porcelain in museums and in private collections, document the variety of forms and decorations produced by the Tucker factory.¹ The pattern books illustrate the designs used during the last six years of the factory's history. Written on the title page of both books, in Thomas Tucker's handwriting, is the notation, "Pattern of china, made at the China Factory sw corner of Schuylkill 6th and Chestnut streets from the year 1832 until the year 1838."² No illustrations of designs employed prior to 1832 remain, but an entry in the Day Book of William Tucker furnishes an idea of the products of this early period. Under the heading "Measure of Ware", the entry lists:

		7 in. from in to out	high
Pint Basons		7 in. from in to out	3 4/8
1/2 " "		6 "	3 3/8
2 Quarts "		8 "	3 7/8
half gallons "	11 4/8 "	"	4 5/8
Large Porengers		5 "	3 1/2
Small "		4 "	3
Half Pint Pitcher	2 7/8 "	"	4 2/8
Pint Pitcher	3 2/8 "	"	4 6/8
Quart "		4 "	7
Half Gallon "	4 6/8 "	"	7 6/8
Sugar Dishes	2 2/8 "	"	4 2/8
Cream Pitchers	2 3/8 "	"	4 2/8
Brown Dishes		9 "	2 3/8
2nd Size		10 "	2 1/3
3rd "		11 "	2 6/8

4th Size	12 in.	from in to out	3
Large Chambers	8 4/8 "	"	6 4/8
Small D.	7 6/8 "	"	4 1/2
Quart Mugs	6 6/8 "	"	4 1/8
Pint Mugs	5 3/8 "	"	3 4/8
1/4 " "	4 "	"	3
Quart "	4 1/4 "	"	6 3/4
Large chambers	8 1/4 wide in side	6 1/2	
Small do	7 1/4 " " "	6	
Large Wash Bason	10 1/2 " " "	5	
Small " "	9 1/2 " " "	4 3/8 ³	

Thomas Tucker's design books contain over 140 different designs (both pen-and-ink and watercolor) for table pieces and vases. The range of designs illustrated consists of teapots (Plate VI, a-d); creamers (Plate VII); sugar bowls (Plate VIII, a-c); cups (Plate IX, a-c); plates (Plate X, a-b); coffeepots: fruit baskets, footed and plain (Plate XI, a-c); vases - beaker, urn, and amphora (Plate XII, a-d); butter coolers (Plate XIII, top); comportiers (Plate XIII, center and bottom); bowls (Plate XIV); covered vegetable dishes (Plate XV, a-b); tureens; mugs; shell-shape dishes; and veilleuses (Plate XVI, a-c).

Of all the Tucker designs, if we may judge by the quantity that survives, pitchers and jugs seem to have been a specialty of the factory. The design books list several pitchers by pattern name. The patterns, such as "Grecian shape" (Plate XVII, top); "Walker shape" (Plate XVII, bottom and XVIII); named for the molder Andrew Craig Walker; "Fletcher shape" (Plate XIX, left); "Vase shape" (Plate XIX, right); "New shape" (Plate XX); have hand-written notations of their size and pattern. The notation accompanying the "New shape" pitcher reads "New shape from wood mould", which documents another type

of mold used in the fabrication of the porcelain.⁴

The most easily identified and characteristic Tucker design is the "vase shape" pitcher which features a high arched handle and a corrugated, molded band around the base. The vase-shape pitcher is peculiar to the Tucker factory, and the large number of surviving vase-shape pitchers attests to their popularity with nineteenth-century customers.

With the exception of the vase-shape pitcher, the shapes and forms employed by the factory were close copies and interpretations of English and Continental porcelain. This condition is understandable if one remembers that the factory was founded to supply the American market with porcelain and was forced to compete with the popular European porcelains. In an 1876 discussion of Tucker porcelain, the statement was made that

In appearance it [Tucker] somewhat resembled the French porcelain of the day, and in durability and in use that of Berlin. The forms were copies of French and English.⁵

A design almost exactly copied from English models is a pitcher referred to, in Tucker nomenclature, as a "horse pitcher".⁶ The pitcher features a molded band around the base depicting a fox hunt. This relief-molded scene was very popular with many of the English potters early in the nineteenth century. William Adams, John Turner, Josiah Spode, and William Davenport used similar motifs. As the Staffordshire potters copied from each other, so Tucker likewise copied from the English potters.

In addition to the patterns illustrated in the design books, the Tucker factory produced many wares for which no manuscript designs survive. This group includes flower pots, covered powder and trinket boxes, toby jugs, inkstands, perfume bottles, oyster dishes, special commission vases with gilt porcelain or ormolu handles, jewelry, and scent vials. The scent vials came in three shapes: shell, heart, and shield. The plaster mold for the heart-shape scent vial is in the collection of the Philadelphia Museum of Art.⁷

The pattern books not only provide documentation for the forms of Tucker porcelain, but also furnish an index of the decorations used. Attempts have been made to separate Tucker decoration-types or motifs into strict periods of use. This cannot be done. A continuity of decorative motifs exists from the beginning of operations in 1826 until the factory's closing in 1838. The only apparent development is from a use of uncomplicated motifs in the factory's early years to the elaborate gilt and polychrome decoration during the final Tucker and Hemphill period. The better quality decoration was a result of increased production, made possible by the influx of financial aid from Joseph Hemphill.

Designs in the hand-colored pattern book include combinations of such motifs as sprig, polychrome floral, sepia and charcoal landscapes, and various gilt designs, including the characteristic "spider" pattern (Plate XXI).

Early factory records seem to indicate that the first Tucker

porcelains were plain white or had only gilt decoration. A letter dated January 16, 1827, written to Benjamin Tucker by Isaac and Hannah Jones states:

Thy acceptance note of this morning we have received together with the accompanying specimen of American China consisting of two elegantly white pitchers manufactured by thy son William Ellis...⁸

The Tucker entries in the 1826 Franklin Institute competition were gilt and white, and the 1827 competition, won by the Tucker factory, specified that all entries had to be either plain white or gilt.⁹ Even though the undecorated and gilt-and-white wares were produced early in the factory's history, their production continued until 1838. A solid-white perfume bottle, executed in a pseudo-Chinese manner, was produced for Mary Earp, the wife of Thomas Tucker, as late as 1837. A gilt and white dinner and tea service, a popular type, was manufactured for Ann Tucker in 1836. The range of all-white wares made by the factory is illustrated by the collection of the Philadelphia Museum of Art, which contains a large number of white flower pots, vases, teapots, and a toby jug.

A constant thread in the story of the decoration on Tucker porcelain is the use of gilding. Table wares and vases frequently included gilt wreaths, flowers, medallions, trophies, monograms, and initials. Of special interest is the baptismal bowl inscribed in gilt, "Presented to the First Presbyterian Church, West Chester, Chester County, February 22nd, 1834 by Joseph Hemphill of Philadelphia."¹⁰

That bowl is merely a covered vegetable dish without its cover.

Another characteristic Tucker pattern illustrated in the design books, and seen on many pieces of Tucker porcelain both early and late, is the sepia and charcoal landscape. All the landscapes have the same general features: a house or rustic church with a lake and trees in the foreground and mountains in the distance. These scenes were produced with a few strokes of the brush and no two are identical. While the scenes appear to be crudely executed, there is a subtleness of detail achieved by the delicate shading and shadows of the trees and mountains. The landscapes appear to be products of the artist's or decorator's imagination rather than representations of actual scenes. They are all hand painted and not transfer printed; transfer prints were never employed during the history of the factory's operation. Edward Hazen, in the 1839 edition of Panorama of Professions & Trades or Everyman's Book, records the process of this "pencil" drawing. The entry appears under the section entitled "Painting and printing"; it states:

When the vessels are to be ornamented with colours, it is necessary, in most cases, that this part of the work be done after the first burning. In China, and at the porcelain manufactory in Philadelphia [Tucker], the drawings are executed by hand with a pencil: the same method is used in Europe, in elaborate pieces of the same workmanship.¹¹

Thomas Tucker, the chief decorator of the Tucker factory, is closely connected with the use of sepia and charcoal landscapes. It has always been assumed that these monochromatic "daubs" were the factory's first attempts at decoration and were confined exclusively

to the factory's early period. Because of this assumption William Tucker is usually credited with being the artist responsible for the brown landscapes. Documents belonging to Tucker descendants would tend to negate this assumption. Among the papers are three wash drawings, executed in the manner of the landscapes, signed by Thomas Tucker and dated 1828.¹² This would indicate Thomas Tucker may have been the artist responsible for the landscapes; and as chief decorator until 1838, the designs would have been continued as long as consumers were willing to purchase them. 1828 was also the year Thomas Tucker entered the firm.

Thomas Tucker began work as William's apprentice. In 1829 Thomas became unhappy with his menial position and desired more responsibility and creativity. Benjamin Tucker championed Thomas's cause and wrote a letter to William which stated:

I hope thee will be able to get him (an apprentice to learn painting on China) on thy own account, as I think he will be an acquisition to thee; and also on Thomas's account, as he will of course take Thomas's place as the youngest apprentice, and will enable thee to take Thomas altogether from the rudimental patterns, to painting more important and imposing figures - Thomas has shown a very commendable disposition, by contentedly pursuing the first rudiments for one year. And now I should like his going to the more perfect painting for another year.¹³

As the chief decorator, Thomas Tucker became the artist responsible for the important polychrome floral decorations, which are the characteristic Tucker trademark. The Tucker sprigware pattern,

closely copied from English prototypes, seems to have been a popular style. The design books devote ten plates to pictures of sprigware patterns. Festoons and bouquets of flowers, fruit, and birds, all with gilt garlands and bands, were popular motifs during the entire twelve year period of operation. Roses, tulips, violets, cornflowers, and forget-me-nots were the flowers that predominated in Tucker designs. Many of these shaded flowers resemble decorations found on products of the English potteries of Spode and Rockingham during the first half of the nineteenth century. Another floral motif employed by the factory was the moss rose pattern which was also popular in England.

The Philadelphia Museum of Art has a collection of watercolors by Thomas Tucker in which the same type of leaves and flowers are used. They imply that Thomas Tucker may have been the factory decorator who originated these ornate floral motifs which became the standard factory designs.

All of these floral patterns appear to be in the French and English taste, with heavy gold bands, flowers, and other naturalistic elements. The selection of motifs for particular pieces of Tucker porcelain depended on the artist's fancy in combining the designs or on the personal wishes of the customer.

The specially-made pieces, primarily vases and pitchers, display the finest decoration employed by the factory. Motifs employed on these pieces ranged from patriotic devices and portraits of import-

ant persons, to scenes of Philadelphia and romantic landscapes. A number of the pitchers in the Philadelphia Museum of Art collection feature American flags, stars, and the American eagle clasping the Olive Branch of Peace. The appropriateness of patriotic devices on Tucker porcelain can be understood when we consider that the factory's hope for success was founded on a "buy American" policy.

George Washington's portrait also appears on a Tucker pitcher in the Philadelphia Museum of Art collection. The design source for that portrait is the William Birch print, derived from Gilbert Stuart's "Vaughan portrait" of Washington.¹⁴ Another pitcher, marked on the bottom, in red, "Manufactured by Jos. Hemphill, Philad.", has a color portrait of Major General Anthony Wayne copied from an oil portrait by Charles Willson Peale.¹⁵

An 1827 wedding present, a pair of beaker-shape vases, for Sarah Wistar Morris and Joseph Perot illustrates two famous Philadelphia houses - "Solitude" and "Woodlands".¹⁶ The source for the decoration is, again, William Birch: the illustrations were taken from his 1808 edition of Country Seats.¹⁷

The dam and bridge at Fairmount Park seem also to have been favorite subjects for the Tucker factory and, especially, Thomas Tucker. A crudely executed illustration of the bridge over the Schuylkill River on a pitcher is identical to a watercolor signed by Thomas Tucker. Thomas Tucker's interest in the Schuylkill Bridge and Waterworks is apparent in the decoration on a pair of two-foot-tall vases in the

Philadelphia Museum of Art. One vase is decorated with a view of the dam at Fairmount Park while the other vase has an illustration of the Waterworks buildings. The lack of perspective in these views, a common problem in paintings by Thomas Tucker, has led to the belief that these vases were painted by him. Another pair of two-foot-high vases is entirely covered with festoons of flowers in natural colors, heavy gold work, and buff bands in an almost herring-bone design. Both pairs of vases have gilt ormolu handles with eagle-head terminals, in imitation of those frequently found on Sevres vases. The handles were designed by Philadelphian Frederick Sachse and case by C. Cornelius and Son, Philadelphia.¹⁸ Female caryatid handles, which were very popular with the French factories such as Sevres, were also employed by the Tucker factory on its vases.

Two other pairs of vases are of particular note. One pair depicts color portraits of Raphael's "Madonna of the Chair" and Domenichino's "St. John the Evangelist"; while the other pair features scenes of a shipwreck and the rescue of a drowning mother and child.¹⁹ The quality of painting on both pairs of vases is outstanding. The degree of detail places them above the majority of Tucker porcelain in their excellence of ornamentation.

Other pieces of Tucker porcelain, such as the variety of *veilleuses*, are embellished with elaborate rural landscapes composed of cottages, cows, and happy peasants, reminiscent of those found on German porcelain of the period.

The West Chester Republican & Democrat, in an 1833 article, reported on the factory's products and decorations and stated that

....We were astonished to see the amount of labor and ingenuity bestowed upon the production of every piece produced. The quality of the ware manufactured in this establishment is, we believe, in every respect equal to French china, and the shape of the various vessels is made to suit the taste of purchasers....we noticed one artist engaged upon a large and beautiful vase, upon which he was copying a full length likeness of General Jackson at the Hermitage, he made a splendid picture of the landscape and having lately seen the President was enabled to correct some inaccuracies which marked the picture which he was copying.

Other artists were drawing landscapes, Philadelphia scenery, the water works, neighboring farms, &c. and it was observed to us that any picture would be almost immediately copied on the pitchers, vases, &c. which a purchaser might order. We saw a large and complete set of china made to order for a lady in Lancaster...and a proportionate number of other vessels, all to be made of the shape and with the degree of patterns furnished by the purchasers.²⁰

The West Chester Village Record, January 19, 1831, discussed the nature of Tucker porcelain and its prices when it wrote:

Certain it is the ware is exceedingly beautiful that which is finished in the richest style, comes high, and ever must, from the cost of painting, it being painted and flowered by the slow process of the pencil, by finished artists. The less ornamented we should suppose would come low. One thing he Tucker seems to need - the bell and the speaking trumpet. It is vain that he make the most splendid ware in the world unless he lets the world know it....more noise should be made about it.²¹

From the above statement it can be assumed that the Tucker factory made few attempts at advertising its products. A careful survey of three Philadelphia daily newspapers from 1826 until 1838 failed to produce a single advertisement for the Tucker factory. A trade card, a copy of which is in the collection of the Philadelphia Museum of Art, appears to be the only extant printed advertisement for the factory in the Philadelphia area. The card advertised:

 * AMERICAN CHINA MANUFACTORY, *
 * S.W. Corner of Schuylkill & Chestnut Sts., *
 * OR AT THE DEPOSITORY *
 * No. -206-Chestnut-Street,-above-Eight-Street *
 * Where is constantly kept on hand, a *
 * superior assortment of China, comprising *
 * DINNER SETS, TEA SETS, VASES, MANTEL *
 * ORNAMENTS, PITCHERS, FRUIT BASKETS, &c. *
 * &c., either plain or ornamented, and of *
 * the latest patterns, which may be purchased *
 * for Cash, at reduced prices. *
 *
 * Also are offered for sale *
 * FIRE BRICK & TILE *
 * Of a superior quality, manufactured in *
 * part from the materials of which the China *
 * is composed, - These have been proved, by *
 * competent judges, to be equal to the best *
 * Stourbridge Brick. *
 ***** 22

The existing bills of sale, receipts, and letters concerning sales tend to prove that most Tucker porcelain was sold in the Philadelphia area. Those pieces sold to individuals outside Philadelphia appear to have been purchased by individuals who were familiar with the Tucker family or factory. The one documented exception occurred in Boston. The Boston Commercial Gazette recorded an auction held by the Society for the Promotion of Manufacturers and Mechanic Arts which

included an invoice of porcelain from the Tucker porcelain factory.²³

In the accounts of expenditures for the furnishing of the Virginia Governor's Mansion in 1830 is the entry:

Received Sept. 23rd of Mr. W. H. Richardson
Fifteen/Dollars in full for two pairs
American Porcelain Jugs (pitchers)
\$15.50 T. Tucker²⁴

Mr. Richardson, in charge of furnishing the mansion, had made a buying trip to Philadelphia and it seems logical to suppose that he heard of the Tucker factory while there, or observed Tucker porcelain in a private residence.

A similar transaction, involving another Southerner, was reported in the West Chester Village Record of 1831. In the article the writer states:

It was two years since I visited the establishment. I was then told the southern gentleman had purchased most extensively, and beautiful full set was shown me finishing for a southern lady. We do this justice to the taste and public spirit of our southern citizens, with much pleasure.²⁵

This article would also tend to infer that the set was ordered while the "gentleman" was in Philadelphia.

The same is true of the tea set sold to the daughters of John Griscom of New York City. They bought the tea set while visiting Philadelphia and had it shipped to New York. The correspondence relating to the sale of the tea set and its eventual delivery to New York presents an interesting insight into the operation of one aspect of the business and of their customer relations. Both of the letters to be

1 coffee pot	2 pieces	\$4.00
1 cream	1 "	1.00
2 cakes	2 "	<u>1.50</u>
		10.00

having for them

24 cups	24 pieces
24 saucers	24 "
12 muffins	12 "
1 sugar	2 "
1 slop	<u>1 "</u>

72 pieces making together

William through a mistake retained the sugar which was one dollar and sent the creamer and two cake plates together \$2.50. But did not vary in the price from the \$20. Thou wilt from the above statement perceive the idea of being 2 dozen muffins as mentioned in thy letter to John Richardson was a mistake.²⁷

Tucker's most influential customer was Andrew Jackson. William Tucker sent a sample of his porcelain to Jackson in order that the President might become interested in the manufactory and to enlist his aid in their fight to instigate protective tariffs against European imports. Jackson, while not interested in an official agreement, was pleased with the porcelain and placed an order with the firm. The letter regarding the President's order is preserved in the Tucker family papers. The letter, written to Jackson at the Hermitage on July 13, 1830, states:

Dear Sir.

About six weeks ago, I received an order from you, for the manufacture of some porcelain, which I immediately commenced, and had it finished, excepting in the last burning. The kiln in which it was placed for the purpose of completing this process was unfortunately lost, owing to a long continuance of wet weather. Inasmuch as I understood that the porcelain in question was designed for use during your stay at your country seat I declined recommencing the order (as it would

From the previous evidence it would appear, as far as is known, that Tucker was urged to advertise, but declined. The products were very popular in the Philadelphia area, where it was customary for wealthy and prominent families to have table services made of Tucker porcelain. Nineteenth-century families also valued Tucker for its artistic and historic qualities. The will of Emma Haines of New Jersey cautioned the recipient of her Tucker china:

I give and bequeath unto my neice my guilt china tea set, hoping she will be very careful of it, for my sake.³²

A single sheet, "Prices for Making Wares and Prices for Which They are Sold", in the collection of the Philadelphia Museum of Art, provides an extensive listing of the manufacturing cost of Tucker porcelain and what the public was charged for the undecorated wares. Decorating and gilding were extra and their cost was added after the "blank" piece had been selected. The price quotation lists:

	cost for making	sold at
Pitchers	.10½ ea	\$1.00 ea
Teapots	.12½ "	1.00½ "
Sugar	.12½ "	.75 "
Small sugar	.12½ "	.62 "
Coffee pot	.35 "	2.00 "
Creamer	.12½ "	.37½ "
Small creamer	.12½ "	.25 "
Gravy boats	.12½ "	.50 "
Shell dishes	.10 "	1.00 "
Square comport	.08 "	1.00 "
Custard Stand	.15 "	3.00 "
Round dishes	.03 "	.75 "
Fruit Baskets	.20 "	2.00 "
Stand for Do.	.15 "	.75 "
High Comports	.20 "	2.50 "
Cake Stands	.12½ "	1.00 "
Salad Octagon	.20 "	2.00 "
Piece for Custard cup Stand	.06 "	.50 "
Tumblers	.02 "	1.00 "

require six or eight weeks to finish it).²⁸

Through a mutual friendship, Marcus C. Stephens, a Baltimore merchant, was supplied with Tucker porcelain. On July 18, 1827, Benjamin Tucker wrote to Stephens:

Dear Friend, In a letter to thy son Sam Barron thou has requested that six pairs of Porcelain Jugs from my son's factory might be forwarded for sale in your store in order to give them - that he has therefore forwarded them & enclosed a bill.

Bot of Wm Ellis Tucker
6 pr Jugs @ 3 Dolls per pr \$18
Disc't for cash to merchants 20 percent²⁹

Another Baltimorean, William Tyson, ordered a tea set from the Tucker factory. He, too, was a personal friend of the Tucker family. The letter written by Benjamin Tucker dated July 4, 1828 states:

Esteemed friend:
Some unexpected delay has taken place in my son's finishing thy porcelain Tea set, in consequence of an accident in the glazing. But it will not be neglected.³⁰

Great quantities of Tucker porcelain were sold in the Philadelphia - Camden area. Pennsylvania newspaper editorials proclaimed that it was the duty of Americans to patronize this American manufacturer. One newspaper editor even suggested that

...it should be rendered fashionable for every new married lady to get a tea set - from Tucker....Tucker we think would find it for his interest to send, at least to every Country town, a few sets, and let them be known as his - seen and admired. Families of fortune should order sets with their names on each piece.³¹

Large plates	.04 ea	4.50 dz
Cup plates	.01½ "	1.50 "
Plates	.03-.04 "	2.50-4.50 "
Muffins	.01½ "	2.00 "
Saucers	.01½ "	1.50 "
Cake saucers	.04 "	.25 ea
Terraces	.60 "	3.50 ea
Cups	.01¼-.02 "	1.25-2.00 dz ³³

The Tucker pattern books also list the prices of the separate pieces. Those pieces not included in the preceding list are:

Cylindrical veilleuses with teapots	\$1.60 ea
Vase shaped " " "	2.50 "
Large undecorated vases	1.50 "
Amphora shaped vase	1.50 "
Funnels	2.00 "
Butter coolers	1.00 "
Round small jugs	.50 "
Fletcher shaped pitchers	1.50 "
Walker shaped pitcher	.37½ "
Grecian shape	1.00 "
Vase shaped	1.00 " ³⁴

Chapter VI

TECHNIQUES OF IDENTIFICATION

Traditionally, Tucker porcelain is identified by examining its physical characteristics. The characteristics of interest are the forms, bodies, glazes, enamels, decorations, marks, eccentricities of production, and color by transmitted light.

The forms utilized by the factory can easily be recognized by a careful study of the Tucker pattern books, and by examining the documented Tucker porcelain in public and private collections.¹ It must be remembered, however, that not all forms made by the Tucker factory were unique to it.

The body of Tucker porcelain differs slightly from both the English bone-china body and the French soft-paste body. The inclusion of bone ash and other minor materials in the porcelain of the Tucker factory prevent it from being considered a "hard paste" or "true" porcelain. By reflected light, earlier Tucker bodies possess a slight yellowish color; but beginning in 1828 the porcelain has a hard, pure white color.

The glaze of Tucker porcelain is generally clear and transparent, with a bluish tinge where it accumulates in grooves and

flutings. Several pieces of Tucker porcelain in the Philadelphia Museum of Art possess a glaze that is opaque white where it accumulates in grooves, but the majority of the pieces of Tucker porcelain have the blue-tinted glaze.

For decorations, the factory employed a standard palette of lead-based enamels. This enamel decoration is always executed over, and never under, the glaze. The types of decoration used by the factory can be divided into two major categories:

With gold:

- sepia and charcoal landscapes
- buff bands
- polychrome flowers, sprigs, fruit, and birds

Without gold:

- sepia and charcoal landscapes
- sprig-ware
- polychrome flowers, fruit, and birds
- polychrome landscapes
- patriotic devices
- portraits

Very few pieces of Tucker porcelain are marked, but the factory employed several marks during its twelve year history of operation. The marks were executed in red enamel and gold over the glaze. The earliest known factory mark was

William Ellis Tucker
 Manufacturer
 Philadelphia.²

Two marks from the period of the Tucker and Hulme partnership are

Tucker & Hulme
 China
 Manufacturers
 Philadelphia
1828.³

and

Tucker & Hulme
 MANUFACTURERS
 Philadelphia 1828.⁴

The latest factory mark was limited to the period after 1832 when Joseph Hemphill was the sole owner of the factory. The mark was

Manufactured
 by Jo. Hemphill
 Philad.⁵

A series of marks, incised on the bottoms of various pieces of porcelain, were applied by molders employed by the factory. The attributed marks are B,F,H,M,V, and W. They have been discussed in Chapter IV.

Two eccentricities of production have been used in identifying Tucker porcelain. The bases of many Tucker urns and vases turn slightly upward at the corners. The warping is a result of excessive shrinkage during the initial "biscuit" firing. The other identifiable characteristic is also concerned with the urns and vases: typical caryatid handles have a small ceramic brace between the caryatid and the body of the vase. The brace was a device to keep the handles from sagging during the firing.

Another means of identifying Tucker porcelain is by examining the color of the body by transmitted light: it is usually a greenish

color; in a few rare instances it appears orange.

These methods of identification are inaccurate and imprecise but they have been widely used by many in attributing Tucker porcelain. They have not provided a systematic method for reliable authentication. With the emphasis on scientific methods and technical analysis, the field of the decorative arts is moving into a new area of attribution techniques.

Two possible new methods of authenticating Tucker porcelain have been suggested. The first method utilizes the ultraviolet light: both short wave (2537 A) and long wave (3660 A). Examined under short wave illumination the Tucker gilt decoration displays an unusual characteristic: a halo of white outlines the gold. It is believed that the mercury used in the gilding process evaporates during the firing and that the halo is probably the result of a contamination of the surrounding area by a thin film of the gold and mercury combination. Under the long wave ultraviolet light, Tucker fluoresces a characteristic pale blue-violet color. This reaction has been found to be consistent in over three hundred pieces of Tucker porcelain examined to date and is characteristic of the early period of factory operation, 1826-1832.⁶ Several pieces exhibit a darker, matt, pink fluorescence. This darker fluorescence is associated with the 1833-1838 period of operation.⁷

These characteristics were not seen on pieces of English, French, or German porcelain of this period, but it might be found on

other specimens. While the ultraviolet method is still in its early stages of trial, it does provide the possibility of applying a new technique to the analysis of Tucker porcelain.

Another, as yet untried, method for the identification and authentication of Tucker porcelain is the use of the Non-dispersive X-ray Fluorescence Analyzer. This instrument measures the percentages of elements in the examined objects. By using the matching, in connection with a computer, the known Tucker recipes may be compared with the actual Tucker porcelain. In addition, trace elements, introduced as impurities, may prove helpful in separating porcelains made at the Tucker factory from those made elsewhere. The method holds great possibilities for the study of all ceramics.

It is true that scientific methods take the fun and excitement out of identification and authentication, but in a period of excellent reproductions and fakes, legends, shaky family histories, and the rising prices for Americana, neither the collector nor the museum can afford to make a costly mistake.

Conclusion

This study of Tucker porcelain has considered the history of the factory, its sources of raw materials and formulae, its pattern books and manufactured products, its retail sales, and modern techniques of identification of the wares.

Between 1826 and 1838 William E. Tucker and the Tucker factory produced porcelain for the American market. The constant threat of financial insolvency, a result of non-protective tariffs, bank failures, national economic depressions, strong European competition, and the personal financial problems of the individuals involved, doomed the Tucker factory to certain failure. William Tucker, with the assistance of his father, Benjamin Tucker, attempted to alleviate the factory's financial burden by acquiring partners. During the twelve year period of operation the factory received aid from a succession of three partners who invested needed capital; but withdrew from the partnership after brief periods of time.

The surviving factory papers document the location and acquisition of the necessary raw materials and provide the sources for the extensive formulae utilized by the factory. The Tucker pattern books, in addition to documented Tucker porcelain, provide an extensive index to the characteristic Tucker decorations and shapes. These

designs document the constancy of motifs used rather than a chronological development of them.

By contemporary standards Tucker porcelain was highly praised for its quality of decoration and newness of design. The new appreciation of nineteenth-century design provides us with an understanding of Tucker porcelain's intrinsic merits rather than an apology for its anti-utilitarian appearance and overly romantic implications.

Newly explored techniques of identification have also enlarged our knowledge of the wares and has enabled ceramic students to apply a more systematic and scientific method of analysis to a very inaccurate area of investigation.

While the study of Tucker porcelain is important in its historical implications, a much larger cultural interpretation is evident. Historically, the study of Tucker porcelain provides not only insights into the history of American ceramic production, but also into the history of the rise of American industry. As the first commercially successful large-scale manufactory of porcelain in the United States, the Tucker factory belongs in the vanguard of American ceramic history. The establishment of the Tucker factory fits exactly into the picture of the growing industrialization of Philadelphia and the United States, during the period of rapid national growth and urban development in the first half of the nineteenth century.

The most important and far reaching contribution of a study of the Tucker factory is its comment on nineteenth century life. The

story of the Tucker factory presents a classic dichotomy between the rise of American nationalism and the American dependence on European precedents. While the factory was founded on the principle of supplying an American market with American-made goods, it was, nevertheless, totally dependent on Europe for its styles and practices. The Tucker formulae and recipes were copied from European books on the preparations of porcelain bodies, glazes, and enamels: the shapes and decorations of the porcelain were approximations of the popular French and English wares of the period.

This conflict was also present in the feelings of the American public. They were confronted with the dilemma of choosing between American-made and European ceramics. Given the choice, the public let the dollar sign outweigh their feelings of nationalism, and most often chose the less expensive ware which, in the case of Tucker porcelain, meant the selection of cheaper European imports. This popularity and preference for European wares determined the very nature of the Tucker operation and also doomed it from its inception.

While this thesis has by no means answered all the questions surrounding the Tucker factory, it has attempted to present the facts to their best advantage. The reader must draw his own conclusions as to their significance and relevance to both ceramic research and cultural history.

FOOTNOTES

Chapter I

¹Sam Bass Warner, The Private City (Philadelphia: The University of Pennsylvania Press, 1968), p. 49. (hereafter cited as Warner).

²Warner, p. 50.

³J. Thomas Scharf and Thompson Westcott, History of Philadelphia 1609-1884, Vol. I, (Philadelphia: L. H. Everts & Company, 1884) p. 2220.

⁴Ibid., p. 2222.

⁵Warner, p. 50.

⁶Edwin Atlee Barber, Pottery and Porcelain of the United States (New York: G. P. Putnam's Sons, 1893) p. 102. (hereafter cited as Barber).

⁷Ibid., p. 104.

⁸Ibid., p. 107.

⁹Pennsylvania Census of Manufacturers - 1820 Eleutherian Mills-Hagley Foundation Microfilm Library. M70.11 reel 3 number 566: frame number 0103.

¹⁰Charter of Incorporation Constitution and By-Laws of the Franklin Institute of the State of Pennsylvania for the Promotion of the Mechanic Arts (Philadelphia: Published by Order of the Institute, 1824), p. 15.

¹¹Address of the Committee on Premiums and Exhibitions of the Franklin Institute of the State of Pennsylvania for the Promotion of the Mechanic Arts with a List of the Premiums, (Philadelphia: Published by the Institute, 1824), p. 80.

¹²Arthur Clement, Our Pioneer Potters (New York: Maple Press, 1947), p. 67 (hereafter cited as Clement).

¹³Barber, p. 111.

¹⁴Ibid.

¹⁵Ibid.

¹⁶Ibid.

¹⁷Ibid.

¹⁸Address of the Committee on Premiums and Exhibitions of the Franklin Institute (Philadelphia: Published by the Institute, 1825) p. 7.

¹⁹Ibid. pp. 21-22.

²⁰Ibid.

²¹Address of the Committee on Premiums and Exhibitions of the Franklin Institute (Philadelphia: Published by the Institute, 1826), p. 264.

²²Address of the Philadelphia Society for the Promotion of National Industry (Philadelphia: M. Carey and Son, 1811). p. iii.

²³Ibid., p. vi.

²⁴Charter of Incorporation Constitution and By-Laws of the Franklin Institute of Philadelphia (Philadelphia: Published by the Institute, 1824), p. 4.

²⁵Pennsylvania Census of Manufacturers-1820 Eleutherian Mills - Hagley Foundation Microfilm Library. M70.11 reel 3, number 566: frame number 0103.

FOOTNOTES

Chapter II

¹Poulson's American Daily Advertiser (Philadelphia), August 18, 1823, p. 2.

²Ibid., September 18, 1823. p. 1.

³Philadelphia As It Is & Citizen's Advertising Directory Containing A General Description of the City & Environs (Philadelphia: P. J. Gray, publisher, 1833), p. 104.

⁴Charter of Incorporation of the Franklin Institute (Philadelphia: Published by the Institute, 1824), p. 26.

⁵Robert Desilver, Desilver's Philadelphia Directory and Stranger's Guide. (Philadelphia: Robert Desilver, Publisher, 1825), p. 84.

⁶Benjamin Tucker, Letter to Benjamin Ferris, 1827. Philadelphia Museum of Art (hereafter cited as PM of A), flat filed.

⁷Letter Book of Benjamin Tucker, 1821-1827, #51-17-21(6) PM of A, p. 5.

⁸Address of the Committee on Premiums and Exhibitions of the Franklin Institute (Philadelphia: Published by the Library, 1824), p. 51. The man referred to was possibly Abraham Miller or William Shufflebottom. Both men were potters in the Philadelphia area and both were respected as leading experts on ceramics in Philadelphia. Miller was the Franklin Institute's judge of pottery and porcelain and Shufflebottom had written a book on pottery production.

⁹Ibid.

¹⁰Catalogue of Books Belonging to the Apprentices's Library Company of Philadelphia (Philadelphia: Published by the Library, 1830), pp. 5-46.

¹¹Benjamin Tucker, Grammar of Chemistry wherin The Principles of the Science are Familiarized by a Variety of Easy and Entertaining Experiments with Questions for Exercise and a glossary of terms in common use (Philadelphia: David Hogan, publisher, 1817).

¹²Letter Book of Benjamin Tucker, 1821-1827, PM of A, #51-17-21(6), p. 1.

¹³William Tucker's personality never emerges in his account books. The only information relating to William Tucker is found in the Letter Books of Benjamin Tucker.

¹⁴Day Book of William E. Tucker, no date. PM of A, #51-17-21(4).

¹⁵Ibid., p. 15. "B's clay" probably refers to "Mr. Bruerton", a Philadelphia potter engaged in the production of creamware.

"Silax" - finely ground hard stone, flint.

"fleet" - a light shallow top soil or clay.

¹⁶Ibid., p. 23. "D & F's clay" probably refers to clay from New Jersey deposits owned by Dallis and Flood.

¹⁷Ibid., p. 24.

¹⁸As yet no creamware produced by the Tucker factory has been identified..

¹⁹Day Book of William Tucker, p. 19.

²⁰Ibid., p. 31.

²¹Ibid., p. 36. "Clay from Flood Bank" refers to John Flood, Perth Amboy, New Jersey.

²²Letter Book of Benjamin Tucker, 1823-1829, PM of A. #51-17-21(6) letter #5, p. 7.

²³Ibid., letter #6, p. 8.

²⁴Ibid., letter #11, p. 12.

²⁵Letter Book of Benjamin Tucker, 1830-1831, PM of A. #51-17-21(7), p. 7.

²⁶Clement, p. 73.

²⁷United States Gazette (Philadelphia), November 16, 1826. p.1.

²⁸It was originally intended that Tucker and Bird would be joint owners of the land.

²⁹Benjamin Tucker, Letter to Benjamin Ferris, 1827. PM of A, flat filed.

³⁰Letter Book of Benjamin Tucker, 1823-1829, letter #4, p. 5.

³¹Ibid.

³²Ibid., p. 2.

³³Ibid., letter #3, p. 4.

³⁴Poulson's American Daily Advertiser (Philadelphia), April 9, 1828. p. 4.

³⁵Robert Desilver, Desilver's Philadelphia Directory and Stranger's Guide (Philadelphia: Robert Desilver, publisher, 1833), p. 101.

³⁶Poulson's American Daily Advertiser (Philadelphia), June 10, 1828. p. 3.

³⁷Ibid.

³⁸Letter Book of Benjamin Tucker, 1823-1829, letter #13, p. 12.

³⁹Address of the Committee on Premiums and Exhibitions of the Franklin Institute (Philadelphia: Published by the Institute, 1827), p. 404.

⁴⁰Thomas Tucker, letter to Pennsylvania Museum, February 17, 1879. PM of A, flat filed.

⁴¹Address of the Committee on Premiums and Exhibitions of the Franklin Institute (Philadelphia: Published by the Institute, 1828), p. 408.

⁴²No apprenticeship records for the Tucker factory exist.

⁴³Letter Book of Benjamin Tucker, 1830-1831, dated October 19, 1830. n.p.

⁴⁴Ibid., 1830-1831. n.p.

⁴⁵Ibid., 1830-1831, dated December 4, 1830. n.p.

⁴⁶Ibid., 1830-1831. n.p. (1830, but entry is not more specific).

⁴⁷Ibid., 1830-1831, dated March 3, 1830, p. 7.

⁴⁸Jackson was, however, personally impressed with the Tucker sample and ordered a service from the factory. The complete answer from Jackson will be found in Barber pp. 131-132.

⁴⁹Letter Book of Benjamin Tucker, 1830-1831. n.p.

⁵⁰Alexander Hemphill never took an active interest in the factory, and was a partner in name only.

⁵¹Letter Book of Benjamin Tucker, 1830-1831. n.p.

⁵²Joseph Hemphill served as Director of the United States Bank and of the Girard Bank, and was President of the Pennsylvania District Court.

⁵³John Ramsay, American Potters and Pottery (New York: Tudor Publishing Company, 1947), p. 102. (hereafter cited as Ramsay).

⁵⁴Agreement between Joseph Hemphill and William Tucker, 1831, PM of A, flat filed.

⁵⁵Address of the Committee on Premiums and Exhibitions of the Franklin Institute (Philadelphia: Published by the Institute, 1831), p. 7.

⁵⁶Letter Book of Benjamin Tucker, 1830-1831, n.p.

⁵⁷Poulson's American Daily Advertiser (Philadelphia), August 23, 1832. p. 3. William Tucker may have died of cholera. A cholera epidemic swept Philadelphia during the summer of 1832, killing thousands of individuals.

⁵⁸Last Will and Testament of William Ellis Tucker, Philadelphia Municipal Will Book, 1832. Will Book #10, p. 378.

⁵⁹Address of the Committee on Premiums and Exhibitions of the Franklin Institute (Philadelphia: Published by the Institute, 1832), p. 391.

⁶⁰Address of the Committee on Premiums and Exhibitions of the Franklin Institute (Philadelphia: Published by the Institute), 1835, p. 18; 1836, p. 12.

⁶¹Neither entry was mentioned in the annual premium list of the Franklin Institute.

⁶²Pamphlet Laws of the State of Pennsylvania, 1835 (Philadelphia: Published by the State of Pennsylvania, 1835), Collection of the Historical Society of Pennsylvania, p. 338.

⁶³Article of Agreement between Joseph Hemphill and Thomas Tucker, 1835. Henry Francis du Pont Winterthur Museum, Joseph Downs Manuscript Library (hereafter cited as Downs Manuscript Library), Microfilm - 742, frame 0064.

⁶⁴The stockholders included Thomas P. Cope, William P. Bryan, Thomas Tucker, and Robert Coleman Hemphill of Pennsylvania and Alexander Read and William Muzzey of Boston.

⁶⁵Archibald M'Elroy, M'Elroy's Philadelphia Directory (Philadelphia: M'Elroy, publisher, 1839), p. 257.

⁶⁶Trade card of Thomas Tucker, PM of A, #51-17-21(11), flat filed.

⁶⁷William Tucker, letter to General Bernard, PM of A, #51-17-21(20), flat filed.

⁶⁸J. Harbeson Barnes and Elijah A. Carroll, Tariff: or Rates of Duties on All Goods, Wares, and Merchandise Imported Into the United States (Philadelphia: Published by the authors, 1834), p. 82.

FOOTNOTES

Chapter III

¹Jennie J. Young, The Ceramic Art (Boston: Published by the author, 1879), p. 59.

²Clay from a location near Haddon, Connecticut is also mentioned in the Day Book of William Tucker. It seems to be only a suggestion of a possible source.

³Arthur E. James, The Potters and Potteries of Chester County, Pennsylvania (Published by the West Chester County Historical Society, 1945), p. 102. (hereafter cited as James).

⁴Chester County, Pennsylvania Deeds. Miscellaneous Deed Book, number 2, 1831, pp. 252-254. (complete deed recorded in Appendix A).

⁵Ibid.

⁶Day Book of William Tucker, n.p.

⁷Ibid.

⁸Ibid., p. 31.

⁹Ibid., p. 34.

¹⁰Ibid.

¹¹New Castle County Deed Book, 1827 General Deed Book, pp. 497-499. (See Appendix A).

¹²Single sheet of directions to the farm of Jacob Way, in the handwriting of Thomas Tucker, PM of A, flat filed.

¹³Formula and Price Book of Thomas Tucker, PM of A, #51-17-21(12), p. 39.

¹⁴Possibly for porcelain or the production of saggars.

¹⁵Last Will and Testament of William Tucker, 1832. Will Book #10, p. 378.

¹⁶Formula and Price Book of Thomas Tucker, PM of A, #51-17-21(12), p. 31.

¹⁷Robert Desilver, Desilver's Philadelphia City Directory (Philadelphia: Robert Desilver, publisher, 1828), p. 92.

¹⁸Day Book of William Tucker, p. 14.

¹⁹Ibid., p. 19.

²⁰Ibid., p. 14.

²¹Ibid., p. 16.

²²See Appendix A for complete listing of the letters.

²³Letter to William Tucker, PM of A, #51-17-21(19), flat filed.

²⁴Memorandum to William Tucker, PM of A, flat filed.

²⁵Day Book of William Tucker, pp. 19-20.

²⁶Ibid., p. 11.

²⁷Ibid.

²⁸Formula and Price Book of Thomas Tucker, p. 2.

²⁹Day Book of William Tucker, p. 33.

³⁰Ibid., p. 35.

³¹Individual sheet in the handwriting of Thomas Tucker, PM of A, flat filed.

³²Formula and Price Book of Thomas Tucker, p. 5.

³³Robert Wynn, On the Preparation of Enamel Colours, and Fluxes and the Vehicle for laying them on With (London: n.p., 1816).

³⁴Formula and Price Book of Thomas Tucker, p. 38.

³⁵Ibid., p. 5

³⁶Ibid., pp. 6-10.

FOOTNOTES

Chapter IV

¹The Philadelphia City Records Office can find no record of the transaction, but all leases were not filed during the early nineteenth century.

²Tucker China 1825-1838, Philadelphia Museum of Art Exhibition Catalog, 1957, Plate II, p. 4.

³Day Book of William Tucker, July 10, 1826, p. 23.

⁴United States Gazette (Philadelphia), November 16, 1826, p. 1.

⁵Robert Desilver, Desilver's Philadelphia Directory and Stranger's Guide (Philadelphia: Robert Desilver, publisher, 1831), p. 218.

⁶ A careful study of the United States Gazette, Poulson's American Daily Advertiser, and the Philadelphia Price Current and several business directories failed to reveal advertisements for the Tucker factory between 1826-1831.

⁷Individual sheet listing the value of the estate of William Tucker, dated August, 1832, PM of A flat filed.

⁸Drawings by Thomas Tucker, PM of A, #51-17-21 (f,g,h,j, and k).

⁹James. p. 19.

¹⁰Rev. Dionysius Lardner, The Cabinet Cyclopaedia (Philadelphia:

Carey and Lea, 1832), p. 41.

¹¹A notation in the pattern books states that the firm possibly used wooden molds for some of its pitchers.

¹²Formula and Price Book of Thomas Tucker, p. 12.

¹³A French porcelain footed sugar bowl in the collection of the PM of A is identical to a bowl produced by the Tucker factory.

¹⁴Books available to Tucker from the Apprentices's Library on the arts and chemical sciences included such works as Chamber's Dictionary of Arts and Sciences and Bache's Chemistry.

¹⁵Count de Milly, L'Art De Porcelaine (Paris: 1771), Plates VI, VII.

¹⁶Information concerning the burning of the glaze kiln on an individual sheet signed by Thomas Tucker, PM of A, flat filed.

¹⁷Information on the cost of firing ware in one glaze kiln, individual sheet, PM of A, flat filed. Dows Manuscript Library, Microfilm - 742, frame 0055. "Ows" are round, doughnut-shape saggars.

¹⁸Information concerning the procedure for the operation of the enamelling kiln, individual sheet signed by Thomas Tucker, PM of A, flat filed. Dows Manuscript Library, Microfilm - 742, 0017.

¹⁹United States Bureau of the Census Records, Philadelphia 1830; Chestnut Ward, sheet number 386.

²⁰West Chester Republican and Democrat (Pennsylvania), July 9, 1833, p. 3.

²¹Barber, p. 151.

²²Archibald M'Elroy, A. M'Elroy's Philadelphia Directory (Philadelphia: published by the author, 1837), p. 12.

²³"Marks and Methods of Tucker Identification," Downs Manuscript Library, Microfilm - 741, frame 0501.

²⁴Ibid.

²⁵Ibid.

²⁶Robert Desilver, Desilver's Philadelphia Directory and Stranger's Guide (Philadelphia: Robert Desilver, publisher, 1836), p. 45.

²⁷Clement. p. 57.

²⁸Appearance Docket Philadelphia Municipal Court, March 1830. Philadelphia City Archives 1825-1835. number 455, p. 597.

²⁹Letter Book of Benjamin Tucker, 1830-1831, Downs Manuscript Library, Microfilm - 742, frame 0047.

³⁰Formula and Price Book of Thomas Tucker, p. 34.

³¹Ibid., p. 33.

³²Ibid., p. 35.

FOOTNOTES

Chapter V

¹The Tucker pattern books are preserved in the collection of the PM of A, #14-66.

²Ibid.

³Day Book of William Tucker, p. 26.

⁴Thomas Tucker, pattern book, PM of A. Plate #5, p. 6.

⁵Charles W. Elliott, Pottery and Porcelain from Early Times Down to the Philadelphia Exhibition of 1876 (New York: D. Appleton and Co., 1876), p. 234.

⁶Tucker China 1825-1838 (Philadelphia: The Philadelphia Museum of Art, 1957), Plate XI.

⁷Ibid. PM of A, Cat. no. 605.

⁸Letter Book of Benjamin Tucker, 1823-1829, letter #14, p. 13.

⁹Franklin Institute Exhibition Catalog - 1827 (Philadelphia: Published by the Institute, 1827), p. 404.

¹⁰Tucker China 1825-1838, Plate X.

¹¹Edward Hazen, Panorama of Professions & Trades or Everyman's Book (Philadelphia: Uriah Hunt, publisher, 1839), pp. 238-239. "Pencil" decoration was done with a fine brush; probably in imitation of the Chinese black-and-white "pencil" ware.

¹²Drawings by Thomas Tucker, PM of A, flat filed.

¹³Letter Book of Benjamin Tucker, 1823-1829, letter #14, p. 13.

¹⁴Barber, p. 137.

¹⁵Ibid., p. 140.

¹⁶Tucker China 1825-1838, Cat. no. 541-542.

¹⁷William Birch, The Country Seats of the United States of North America (Philadelphia: W. Birch, publisher, 1808), Plates XIII and XVIII.

¹⁸The handles are stamped with the Cornelius mark.

¹⁹In the bottom left hand corners of the scenes are the initials "BR" or "HR". As yet, the identity of the painter is unknown.

²⁰West Chester Republican & Democrat (Pennsylvania), July 9, 1833, p. 2.

²¹West Chester Village Record (Pennsylvania), January 19, 1831, p. 4.

²²Photocopy in the PM of A, flat filed. Tucker China 1825-1838, Cat. no. 602.

²³Boston Commercial Gazette (Boston), April 15, 1835, p. 4.

²⁴Virginia State Archives, "Governor's Mansion File-1830", flat filed.

²⁵West Chester Village Record (Pennsylvania), January 19, 1831, p. 2.

²⁶Letter Book of Benjamin Tucker, 1830-1831, Downs Manuscript Library, Microfilm 742, frame 0040.

²⁷Ibid., frame 0042.

²⁸Letter Book of Benjamin Tucker, 1830-1831, p. 16.

²⁹Letter Book of Benjamin Tucker, 1823-1829, letter #10, p. 12.

³⁰Ibid., letter #12, p. 13.

³¹West Chester Village Record (Pennsylvania), January 19, 1831, p. 2.

³²Letter from Mrs. Vaughan C. Chambers, November 15, 1956. On file in the Registrar's Office of the Henry Francis du Pont Winterthur Museum. The tea set (G. 57.9.1-43) mentioned in the letter, is now on

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display in the Winterthur Museum.

³³Individual flat filed sheet titled, "Prices for Making Wares and Prices for Which They are Sold", collection of the PM of A.

³⁴Compiled from individual references in the pattern books.

FOOTNOTES

Chapter VI

¹The reader is also referred to Tucker China 1825-1838.

²Vase-shape pitcher, red mark. Tucker China catalog #339. Collection of PM of A.

³Walker-shape pitcher, red mark. Tucker China catalog #361. Collection of Mr. and Mrs. Titus C. Geesey.

⁴Sugar bowl, red mark. Manufactured for the Phoenix Hose Company, 1827. Tucker China catalog #551. Anonymous loan to PM of A.

⁵Vase-shape pitcher, red mark. Features portrait of Major General Anthony Wayne and the Paoli Monument. Tucker China catalog #545. Anonymous loan to PM of A.

⁶The basis for this statement: dated and documented examples of Tucker porcelain.

⁷The basis for this statement: dated and documented examples of Tucker porcelain.

BIBLIOGRAPHY

I. PRIMARY SOURCES

Books

Address of the Committee on Premiums & Exhibition of the Franklin Institute of the State of Pennsylvania for the Promotion of the Mechanic Arts with A List of the Premiums. Philadelphia: Published by the Institute, 1825-1840.

Address of the Philadelphia Society for the Promotion of National Industry. Philadelphia: M. Carey & Son, 1811.

Barnes, J. Harbeson, and Carroll, Elijah A. Tariff: or Rates of Duties, on all Goods, Wares, and Merchandise Imported Into the United States of America. Philadelphia: Published by the authors, 1834.

Bigelow, Jacob. The Useful Arts, considered in connexion With the Application of Science. Boston: Thomas H. Webb and Co., n.d.

The Book of Trades Published Under the Directions of the Committee of General Literature and Education, Appointed by the Society For Promoting Christian Knowledge. London: Published by the Society, n.d.

The Cabinet of Useful Arts and Manufactures. London: J. Robins and Co., 1822.

Carpenter, George W. American Journal of Science and Art. Philadelphia, 1828.

Catalogue of Books Belonging to the Apprentices' Library Company of Philadelphia. Philadelphia: Published by the Library, 1830.

Charter of Incorporation Constitution and By-Laws of The Franklin Institute of the State of Pennsylvania for the Promotion of the Mechanic Arts. Philadelphia: Published by the Institute, 1824.

Clarke, Hewson, and Dougall, John. The Cabinet of Arts or General Instruction in Arts, Sciences, Trade, Practical Machinery, The

- Means of Preserving Human Life, and Political Economy. London: J. M'Gowan, 1823.
- Desilver, Robert. Desilver's Philadelphia Directory and Stranger's Guide. Philadelphia: Robert Desilver, 1828, 1829, 1831, 1833, 1835, 1836, 1837.
- Gay, P. J. Philadelphia As It Is, and Citizen's Advertising Directory. Philadelphia: P. J. Gay, 1834.
- Harris, S. Harris's Commercial Directory, and Merchants' Guide for Philadelphia. Philadelphia: S. Harris, 1838.
- Hazen, Edward. Panorama of Professions & Trades or Everyman's Book. Philadelphia: Uriah Hunt, 1839.
- Lardner, Rev. Dionysus. The Cabinet Cyclopaedia: A Treatise on the Origin, Progression, Improvement, and Present State of the Manufacture of Porcelain and Glass. Philadelphia: Carey & Lea, 1832.
- Lyon, D. S. Tariff, or Rates of Duties Payable After the 30th of June, 1824, on All Goods, Wares, and Merchandise Imported into the United States of America. New York: C. S. Van Winkle, 1824.
- M'Elroy, Archibald. M'Elroy's Philadelphia Directory. Philadelphia: A. M'Elroy, 1837, 1839, 1840, 1841.
- Mephistopheles Kennedy, John P. . A Review of Mr. Cambreleng's Report from the Committee of Commerce in the House of Representatives At The First Session of the Twenty First Congress. Baltimore: n.p. 1830.
- Milly, Count de. L'Art De La Porcelaine. Paris, 1771.
- Niles, Hezekiah. Journal of the Proceedings of the Friends of Domestic Industry. Baltimore: Published by order of the convention, 1831.
- O'Brien, John G. O'Brien's Wholesale Business Intelligencer and Southern & Western Merchant's Pocket Directory. Philadelphia: John G. O'Brien, 1838.
- Philadelphia in 1830-1: or A Brief Account of the Various Institutions and Public Objects in this Metropolis Forming A Complete Guide for Strangers. Philadelphia: E. L. Carey and A. Hart, 1830.
- Pilkington, James. The Artist's Guide and Mechanic's Own Book, Embracing The Portion of Chemistry Applicable to the Mechanic Arts. Portland: Sanborn & Carter, 1841.
- Robinson, James. Philadelphia Directory for 1816. Philadelphia:

James Robinson, 1816.

Savage, J. R. The Philadelphia Circulating Business Directory for 1833 Containing the Cards of the Principal Merchants, Manufacturers, and Other Business Men of Philadelphia. Morris's Xylographic Press, 1838.

The School of Arts Improved or Companion for the Ingenious. London: John Mozley, 1776.

Shaw, Joshua. United States Directory for the Use of Travellers and Merchants giving an account of the Principal Establishments of the Business and Pleasure throughout the Union. Philadelphia: James Maxwell, 1822.

Tucker, Benjamin. A Grammar of Chemistry wherein The Principles of the Science Are Familiarized By a Variety of Easy and Entertaining Experiments with Questions for Exercise and a glossary of terms in common use. Philadelphia: David Hogan, 1817.

Tucker, Waldo, publisher. The Mechanic's Assistant; Being A Selection of Valuable Receipts, From the Best Authors and Practical Artists in Europe and America; and Containing Many Processes Never Before Published. Windsor, Vermont: Waldo Tucker, 1837.

Wynn, Robert. On the Preparation of Enamel Colours, and Fluxes and the Vehicle for laying them on With. London: Robert Wynn, 1816.

Family Papers

"Accounting for cost of making China in one glaze kiln".
Philadelphia Museum of Art (hereafter as PM of A),
MS 51-17-21(42).

"Agreement between Joseph Hemphill Porcelain Company and Thomas
Tucker relating to china". PM of A, MS 51-17-21(24).

Bourges, Paul. "French Preparation of Gold". 1833. PM of A,
MS 51-17-21(17).

Carlisle, Briton. "Examiner's Accounting for Tucker and Hemphill
Factory.". December 19, 1832. PM of A, MS 51-17-21(27).

"Directions to the farm of Jacob Way". PM of A, MS 51-17-21(14).

"Statement of years worked and prices paid at Tucker factory". PM of A,
MS 51-17-21(18).

Tucker, Benjamin. "Letter Books, three volumes, 1821-1831".
PM of A, MSS 51-17-21(6,7,8).

Tucker, Thomas. "American Porcelain". December 16, 1878. PM of A,
MS 51-17-21(40).

_____. "Book of glazes, fluxes, directions". PM of A, MS 51-17-21
(2).

_____. Business card. PM of A, MS 51-17-21(11).

_____. "Formula for making porcelain, etc". September 12, 1846.
PM of A, MS 51-17-21(40).

_____. "Portfolio of Thomas Tucker - contains formula for making
porcelain, glazes and colors, schedule of burning, kiln drawings,
plans for mixing rooms, mill rooms. 1836." PM of A, MS 51-17-21
(3).

Tucker, William. "Day Book - contains receipts and experiments". PM
of A, MS 51-17-21(4).

_____. "Formula for making porcelain and for glazing". PM of A,
MS 51-17-21(12).

_____. "Price list showing cost and sale prices". PM of A, MS 51-
17-21(15).

Letters

- Boyd, William. Letter to William E. Tucker. March 14, 1827, PM of A, MS 51-17-21(19).
- Irvins, Martha. Letter to Ann Tucker. June 23, 1833, PM of A, MS 51-17-21(23).
- Tucker, Ann. Letter to Ann Irvins. April 14, 1831, PM of A, MS 51-17-21(22).
- Tucker, Benjamin. Letter sheets to various people, 1823-1827. PM of A, MS 51-17-21(P53-11-19), (a-o).
- _____. Letter to Benjamin Ferris. Chester County Historical Society, flat filed.
- _____. Letter to General Bernard. February 1, 1831, PM of A, MS 51-17-21(21).
- Tucker, Thomas. Letter to General Tyndale. April 16, 1877, PM of A, MS 51-17-21(26).
- _____. Letter to Professor Frazer. November 27, 1852, PM of A, MS 51-17-21(25).
- _____. Letter to Rev. Charles Henry Tucker. February 17, 1879. Chester County Historical Society, flat filed.
- Tucker, William. Letter to General Bernard. January 31, 1831, PM of A, MS 51-17-21(20).

Newspapers

- American Republican. West Chester, Pennsylvania, 1829-1831.
- The Boston Commercial Gazette. Boston, 1830-1835.
- Commercial List and Maritime Register. Philadelphia, 1827-1840.
- Poulson's American Daily Advertiser. Philadelphia, 1823-1840.
- The United States Gazette. Philadelphia, 1825-1840.
- West Chester Republican and Democrat. West Chester, Pennsylvania, 1830-1835.
- The West Chester Village Record. West Chester, Pennsylvania, 1831-1835.

Public Documents

"Deed Book". New Castle County, Delaware Deeds, 1830-1835. New Castle County Court Records. New Castle County Court House.

"Governor's Mansion File". 1830-1843, Vouchers, papers, receipts, and bills. Archives Division, Virginia State Library; Richmond, Virginia.

"Miscellaneous Deed Book". Chester County, Pennsylvania Deeds, Book II, 1831. Chester County Court Records. Chester County Courthouse.

Pamphlet Laws of the Pennsylvania Assembly. Philadelphia: Published by the State Assembly, 1835. Historical Society of Pennsylvania.

Philadelphia Municipal. "Appearance Docket, 1825-1835". March, 1830; number 455. Philadelphia City Archives.

United States Bureau of the Census. "1830 Census". Philadelphia. Vol. LXVI, National Archives.

_____. "Record of the 1820 Census of Manufacturers, Schedule for Pennsylvania". National Archives. Microfilm Publications, 279, Roll 14.

"Wills and Inventories". City of Philadelphia, 1832-1890. Books X-XVIII. Philadelphia City Archives.

II. SECONDARY SOURCES

Articles

- "The Editor's Attic", The Magazine Antiques, LXII, No. 3 (September, 1952), 237.
- Hornor, W. M. "Tucker and Hemphill Porcelain Works" The Magazine Antiques, XIII, No. 6 (June, 1928), 480-484.
- Jayne, Horace H. F. "Tucker porcelain: Thomas Tucker's share" The Magazine Antiques, LXXII, No. 3 (September 1957), 237-239.
- "Rarities in Tucker porcelain" The Magazine Antiques, LXXIV, No. 3 (September, 1958), 241.
- "Shop Talk" The Magazine Antiques, LXIII, No. 2 (February, 1953), 112.
- Winchester, Alice "Footnote to Tucker History" The Magazine Antiques, XXX, No. 4 (October, 1936), 480-484.
- Woodhouse, Samuel W. "The First Philadelphia Porcelain" The Magazine Antiques, XXIV, No. 4 (October, 1933), 134-135.

Books and Catalogues

- Barber, Edwin Atlee. The Pottery and Porcelain of the United States. New York: G. P. Putnam's Sons, 1893.
- Beck, William S. The Draper's Dictionary A Manual of Textile Fabrics Their History and Application. London: The Warehousemen and Draper's Journal Office, 1884.
- Beckwith, Arthur. Pottery. New York: D. Van Nostrand, 1872.
- Beyanson, Anne, Gray, Robert D., and Hussey, Miriam. Wholesale Prices in Philadelphia 1784-1861. Philadelphia: University of Pennsylvania Press, 1936.
- Bishop, J. Leander. A History of American Manufactures From 1608-1860, in three volumes. Philadelphia: Edward Young and Company, 1866.
- Clement, Arthur W. Notes on Early American Porcelain, 1738-1838. New York: The Court Press, 1946.

- Dick, William B. Encyclopedia of Practical Receipts and Processes Containing over 6400 Receipts. Philadelphia: Claxton, Remsen, and Hoffelfinger, 1872.
- Earle, Alice Morse. China Collecting in America. New York: Charles Scribner's Sons, 1892.
- Eiselen, Malcolm R. The Rise of Pennsylvania Protectionism. Philadelphia, 1932.
- Elliott, Charles W. Pottery and Porcelain from Early Times Down to The Philadelphia Exhibition of 1876. New York: D. Appleton and Company, 1878.
- Hillier, Bevis. Pottery and Porcelain: 1700-1914. New York: Meredith Press, 1968.
- Hinshaw, William W. Encyclopedia of American Quaker Genealogy. Ann Arbor, Michigan: Edwards Brothers, Inc., 1934.
- James, Arthur E. The Potters and Potteries of Chester County. West Chester, Pennsylvania: Chester County Historical Society, 1945.
- March, Benjamin. Standard of Pottery Description. Ann Arbor, Michigan: University of Michigan Press, 1934.
- Meteyard, Eliza. The Life of Josiah Wedgwood. London: Hurst and Blackett, 1865.
- Oberholtzer, Ellis Paxson. Philadelphia A History of the City and its People, I, II. Philadelphia: S. J. Clarke Publishing Company, n.d.
- Pennsylvania Illustrated: A General Sketch of the State. Philadelphia: Porter and Coates, 1874.
- Prime, William C. Pottery and Porcelain of All Times and Nations. New York: Harper and Brothers, 1967.
- Ramsay, John. American Potters and Pottery. New York: Tudor Publishing Company, 1947.
- Rhodes, Daniel. Kilns; Design, Construction, and Operation. Philadelphia: Chilton Book Company, 1968.
- Scharf, J. Thomas, and Westcott, Thompson. History of Philadelphia 1609-1884, Vol. I, Vol. III. Philadelphia: L. H. Everts & Company, 1884.
- Schmidt, Robert. Porcelain As An Art and A Mirror of Fashion. London: George G. Harrap and Co. Ltd., 1932.

Schwartz, Marvin, and Wolfe, Richard. A History of American Art Porcelain. New York: Renaissance Editions, 1967.

Spargo, John. Early American Pottery and China. New York: The Century Company, 1926.

Stanwood, Edward. American Tariff Controversies in the Nineteenth Century. Boston: Houghton, Mifflin, and Company, 1904.

Tucker China, 1825-1838. Philadelphia: Philadelphia Museum of Art, 1957.

Tucker, Ephraim. Genealogy of the Tucker Family from Authentic Sources. Worcester, Massachusetts: Worcester Society of Antiquity, 1895.

Warner, Sam Bass. The Private City. Philadelphia: University of Pennsylvania Press, 1968.

Young, Jennie J. The Ceramic Art. Boston: Harper & Brothers, 1879.

Appendix A

LEASES, DEEDS, AND LETTERS

Article of agreement between Israel Hoopes and William E. Tucker for the lease of kaolin deposits in the West Chester Pennsylvania area. (Chester County, Pennsylvania Deeds. Miscellaneous Deed Book, number 2, 1831, pp. 252-254).

Articles of Agreement Entered Into this first day of August in the year of our Lord one thousand eight hundred and thirty one Between Israel Hoopes on the one part and Wm Ellis Tucker on the other part. First: The said Israel Hoopes doth covenant and agree for himself his heirs & assigns the exclusive right and privilege of excavating or digging porcelain earth or kaolin from the following tract of Ground for the next 15 years ensuing which will terminate on the first day of August in the year of our Lord 1846 for the consideration of \$200 this day recd by the said Israel Hoopes from the said William Ellis Tucker the ground to lay on the south side of Israel Hoopes dwelling and commence at the northwest corner of a piece of woods. The west line to run from said corner along a fence on the northwestern extremity of said wood about 110 yards more or less to a road. The south line to run from said road through the woods to a corner of a fence running east about 180 yards more or less. The east line commencing at said corner and runs north about 80 yards along a fence to the extremity of the woods where there is another corner of the fence. The north line to commence at the east corner and run west about 180 yards more or less along the extremity of the ground to the place of the beginning. The whole to contain three or four acres more or less. Second. the said Israel Hoopes his heirs and assigns agree that they will not dig or remove any of said Porcelain Earth

The Salamander Works
are at 62 cannon st
New York

Isaac T. Hooper 420 Pearl st.
N. York
Philad
27, 1830

Dear Friend

From the saturated state of the ground in consequence of heavy rains in the neighborhood West Chester, Pennsylvania from which my son obtains one of the ingredients for making his porcelain called Kaolin is China Clay he has for some weeks been deprived of getting it, and is at present in a suffering state for want of it, on this account he has been induced to think of obtaining from New York, if he possibly can a quantity, which some time ago was taken there in a vain attempt to make china: and is now in the possession of the Proprietor of the Salamander Works, in which at this time fire bricks are manufactured; bid where formerly Shanmur's factory stood. which was burnt down. Unfortunately my son William lost the name of this Proprietor of Salamander works; but this will not prevent the negotiation if he has the article and as he does not himself want it - there is good ground to hope he will part with it upon reasonable terms; now if thou can without too much inconvenience negotiate for my son William in this business thou will confer as a obligation which will be greatly remembered. Thou can ask the Proprietor whether he has still on hand any of the china clay or Kaolin of which William Ellis Tucker got a few barrels perhaps a year since - and if he has try to obtain from him twelve barrels or even a less number if that quantity cannot be had - six or eight dollars for the twelve barrels should be a fair price: but William would give even twelve dollars or even a little more rather than at this trying time to be disappointed...if it can be had he would wish it to be shipped on board of one of the first packets bound for Philadelphia: as in a few days his factory will stop for want of this article: while he has feldspar and every other material in sufficient quantity on

hand what makes it more trying from the present wet state of the ground, he will not possibly get a supply from his former locality under one or two months when it is in thy power thou wilt send me information by post on this subject.

A second letter presented a more desperate request.

April 29, 1830

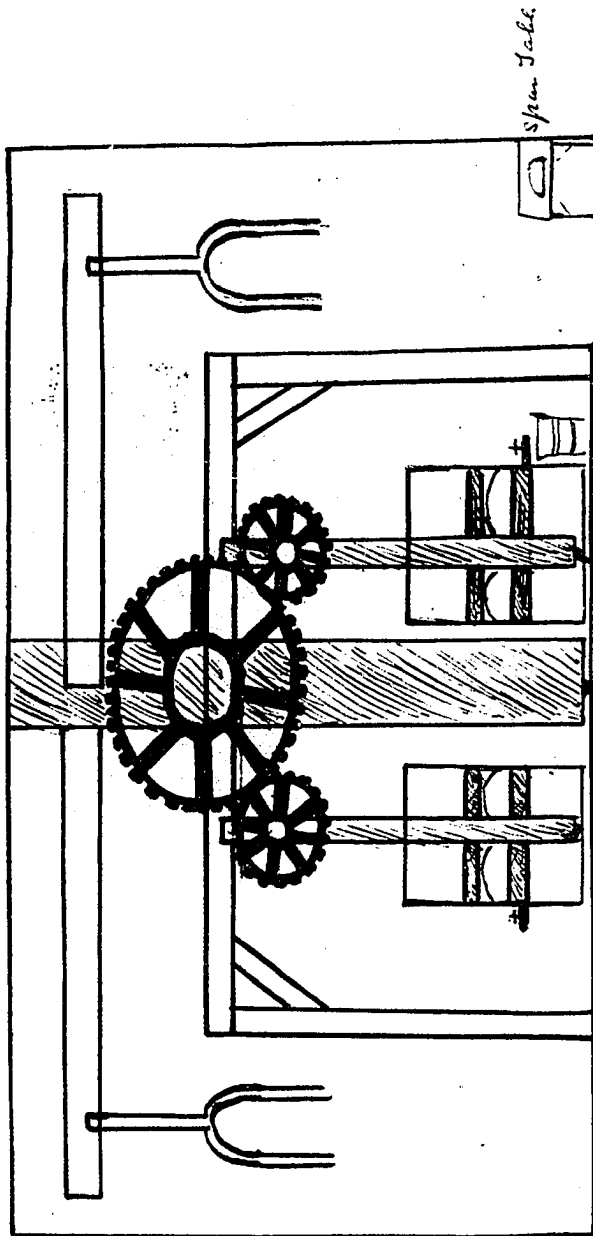
My son unexpectedly finds his China Clay is so nearly exhausted that he cannot wait to see how the lot send on will come out of the kiln before it is necessary for him to have more send on. He hopes it is the very same clay which he got last summer, and if so there is no necessity for waiting. He will therefore be obliged to you to have the 35 barrels...shipped as early... as is convenient. He was very much oblige to you for seeing that barrels were filled to the top with clay From the light manner in which it can be put in, even then it had very much lessened in bulk by the time of its arrival.

Appendix B

ILLUSTRATIONS OF FORMS

Illustrations of the forms used by the factory taken from the Tucker pattern books in the collection of the Philadelphia Museum of Art. The pattern books provide an index of the variety of shapes and forms employed in the manufactory of Tucker porcelain.

Mill Room



W. H. C. S.

Plate I

All photographs courtesy of the Philadelphia Museum of Art

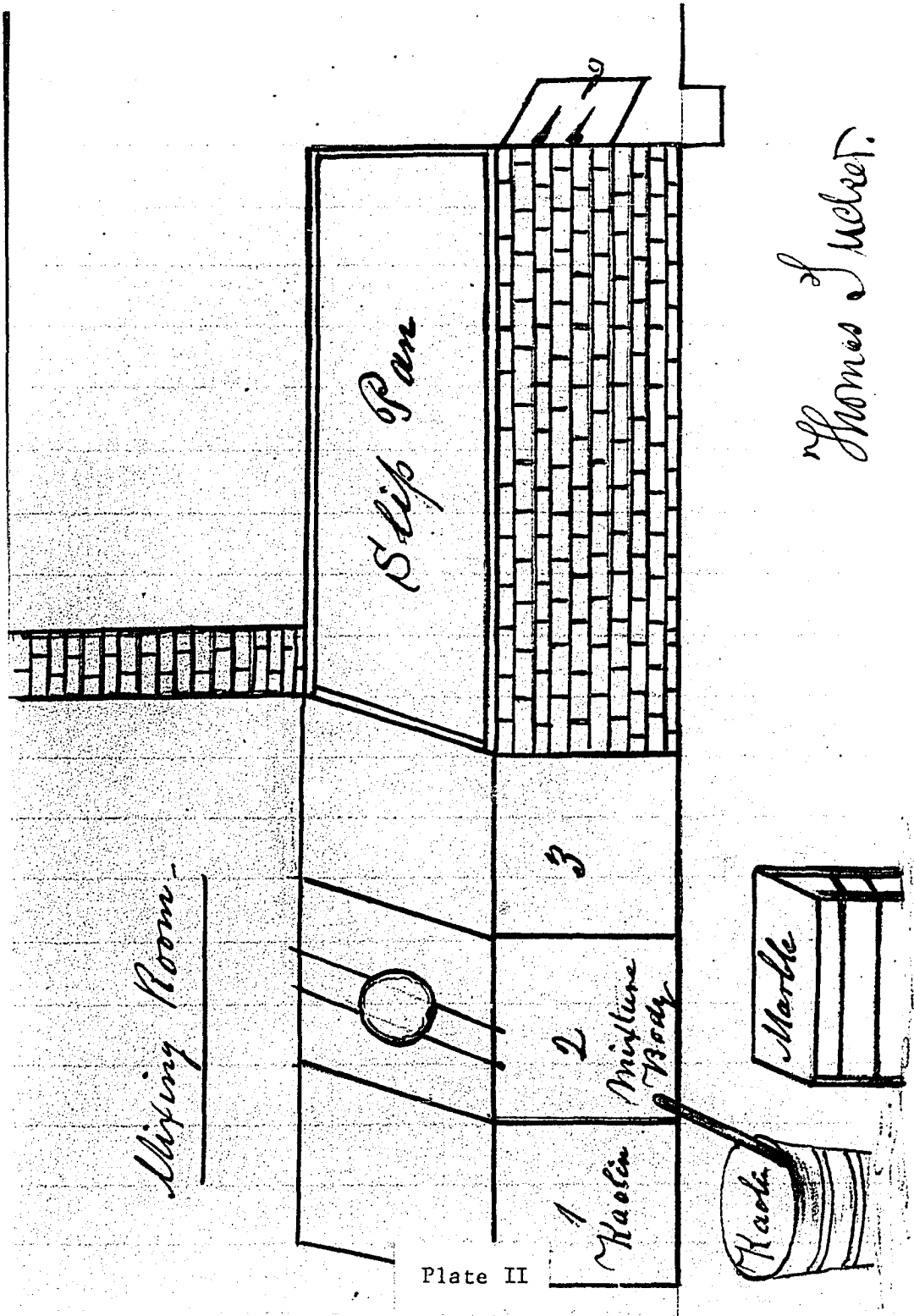


Plate II

Thomas J. Lubert.

Sketch plan of Glaze kiln

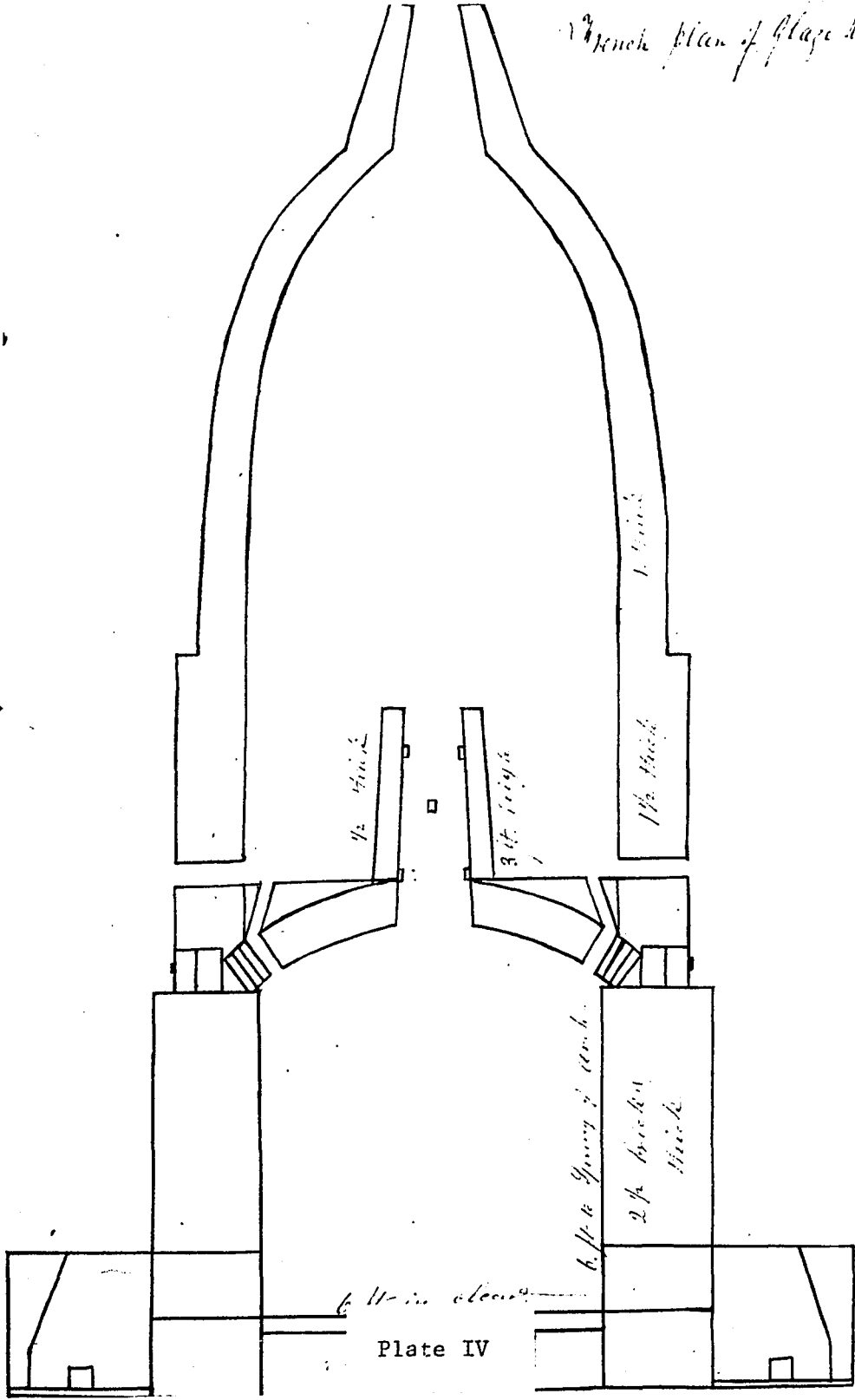
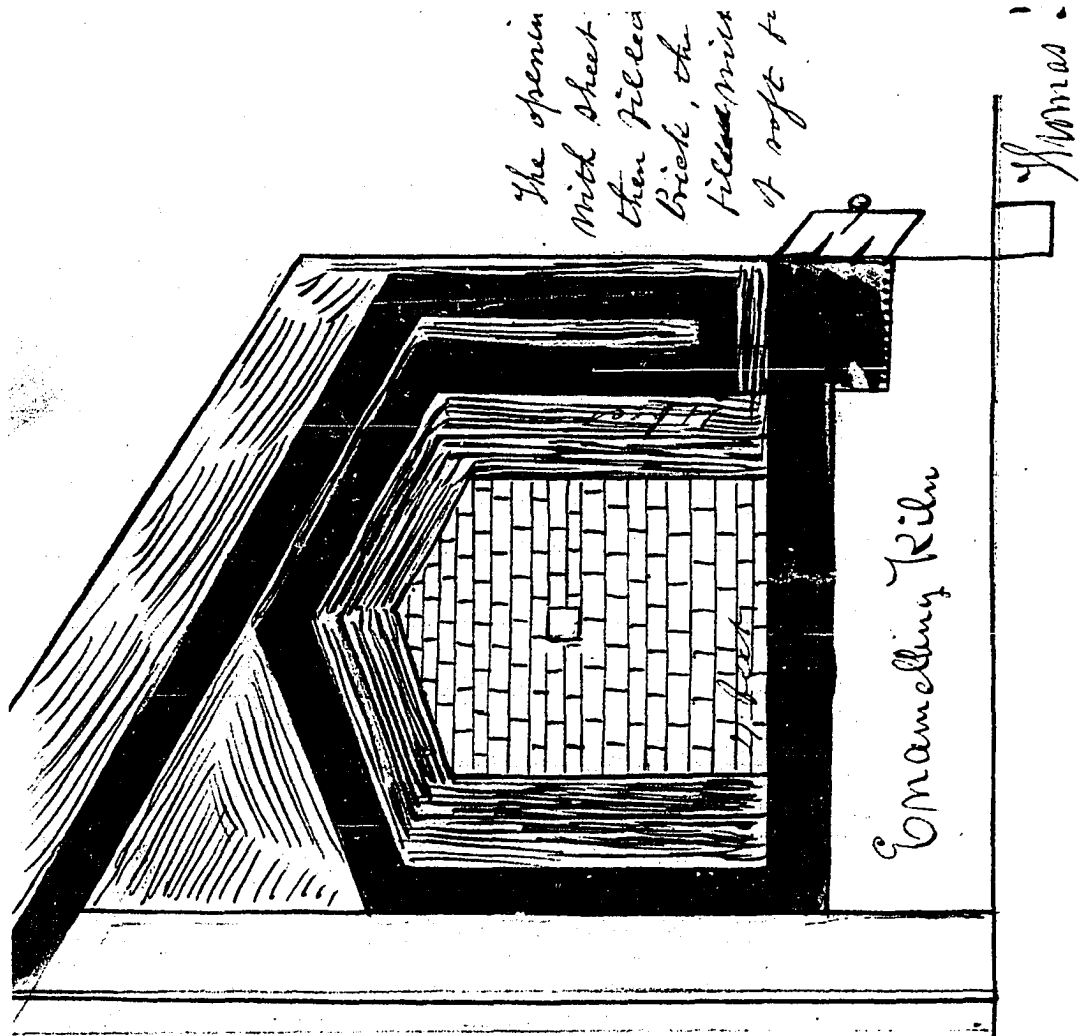


Plate IV



*Kiln for burning
Painting & Gilding*

Plate V

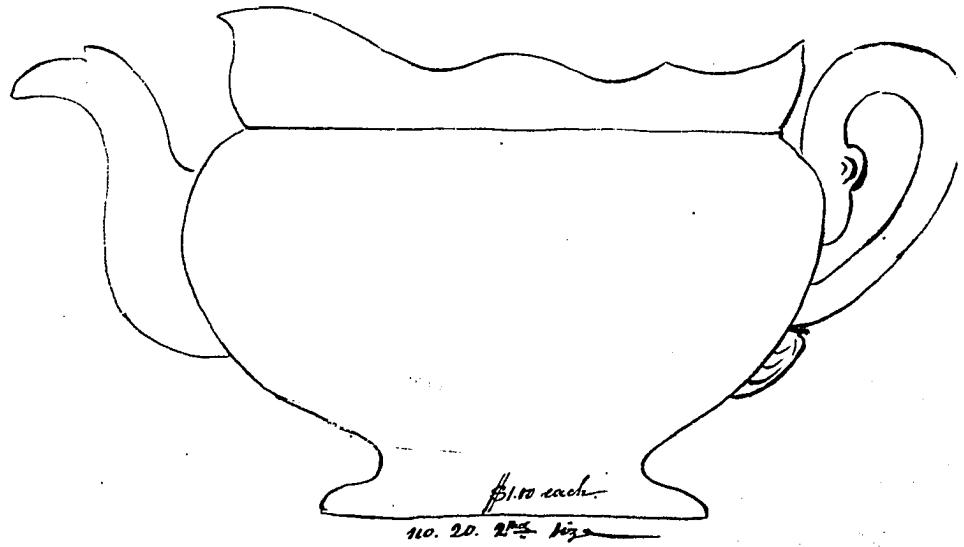
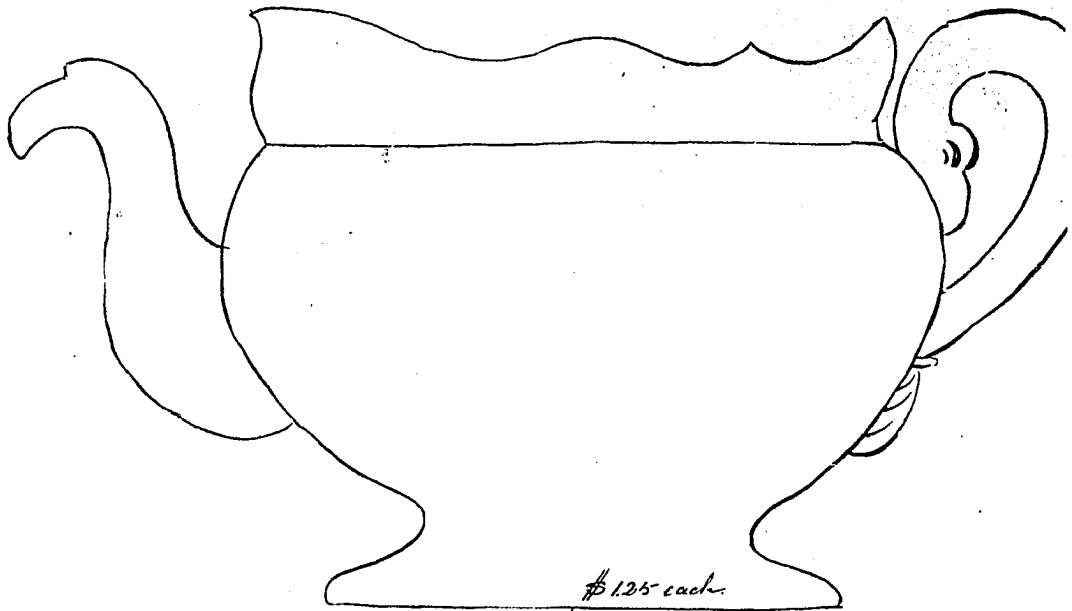


Plate VI, a

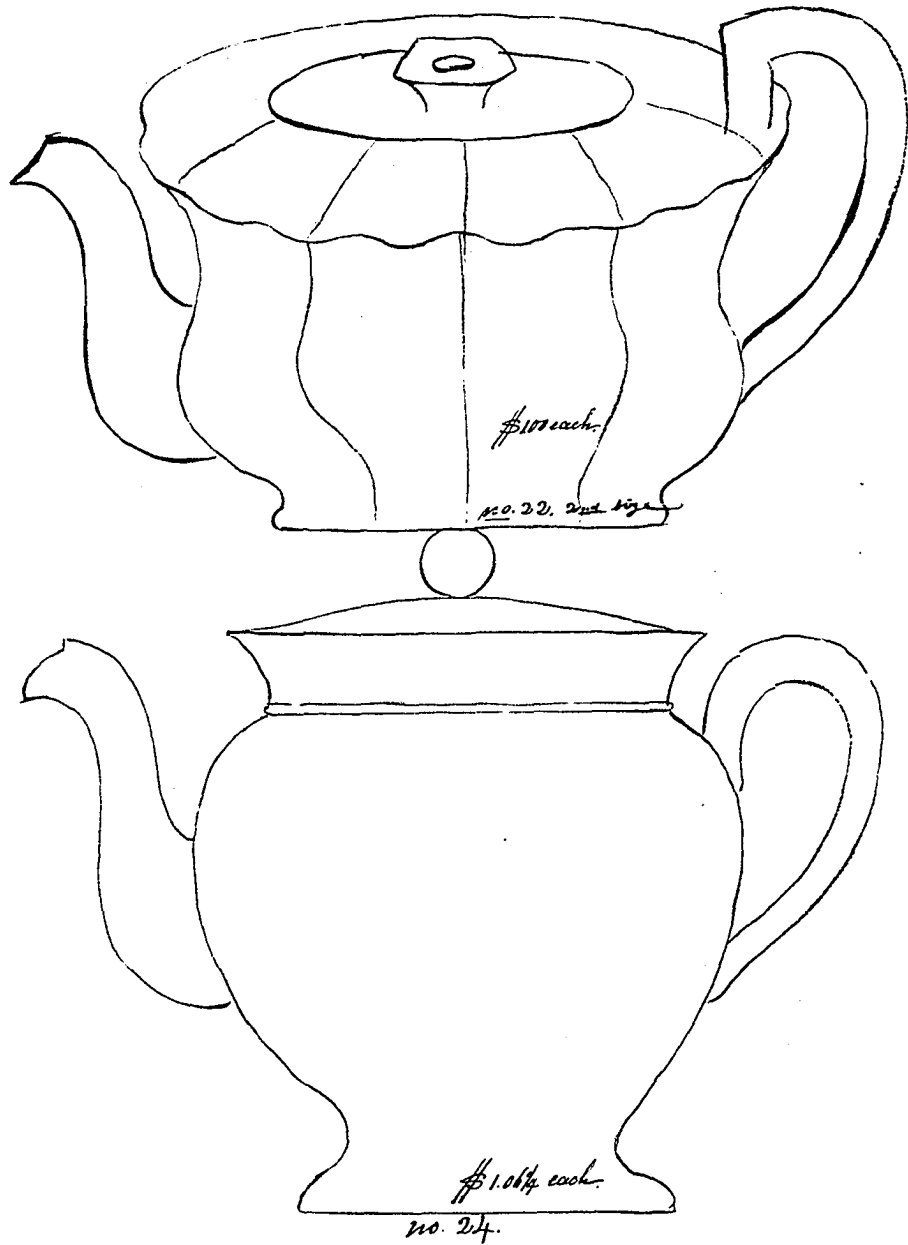


Plate VI, b



Plate VI, c

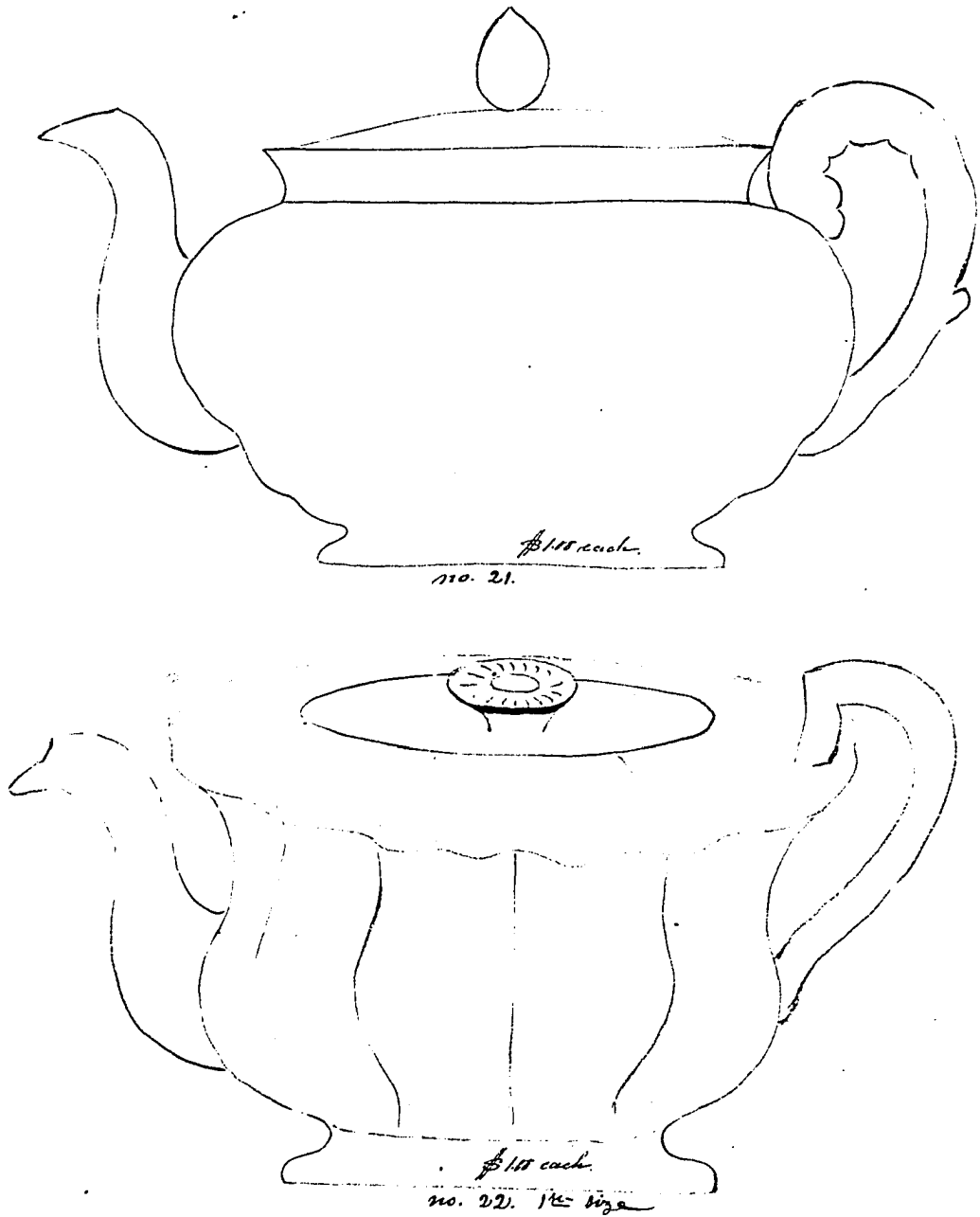


Plate VI, d

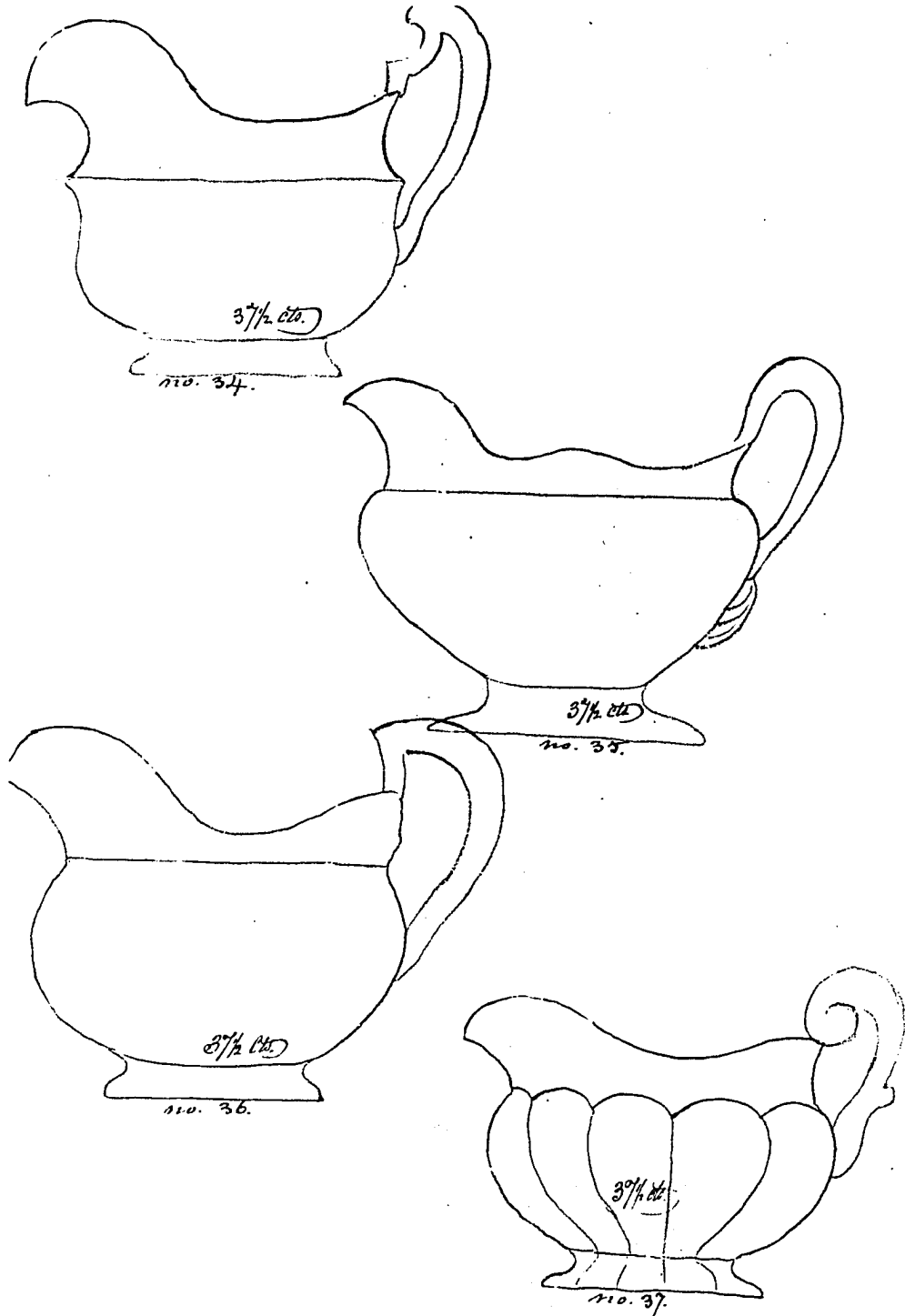


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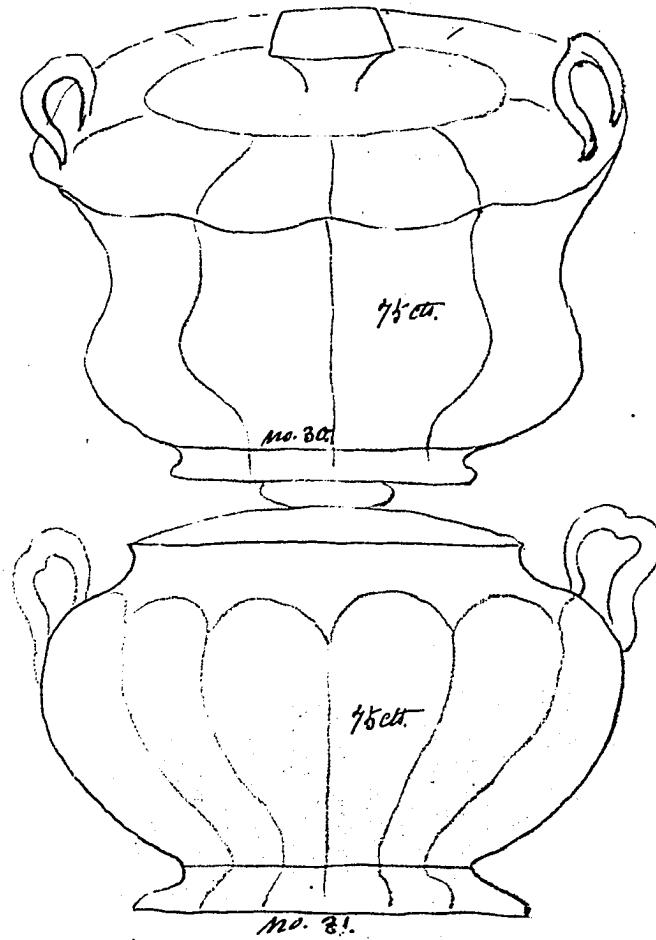


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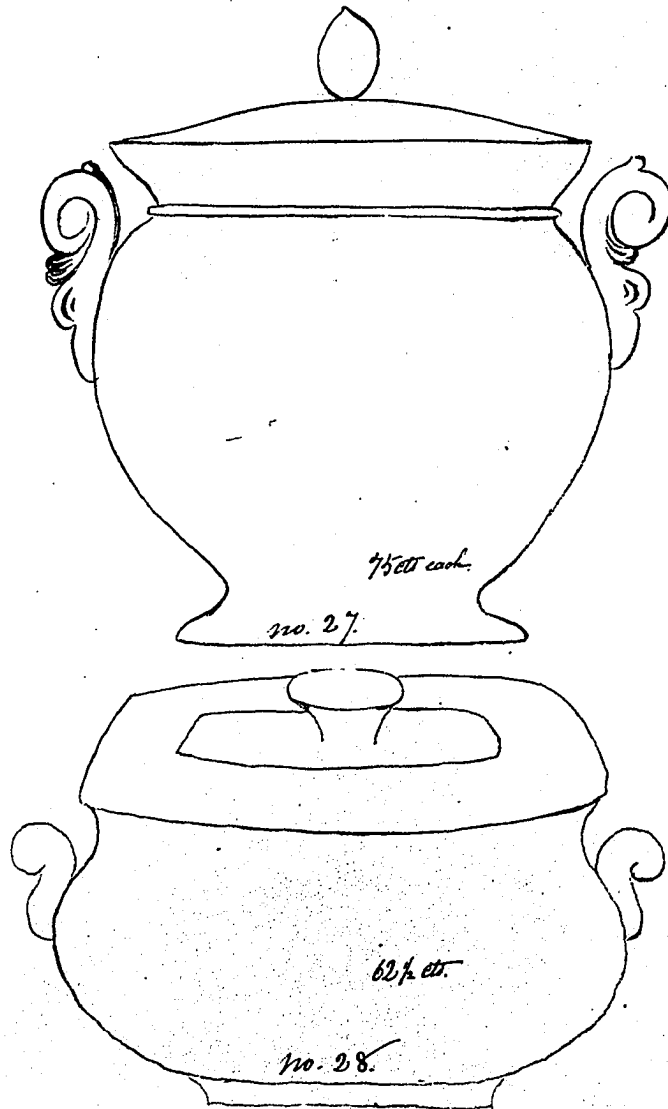


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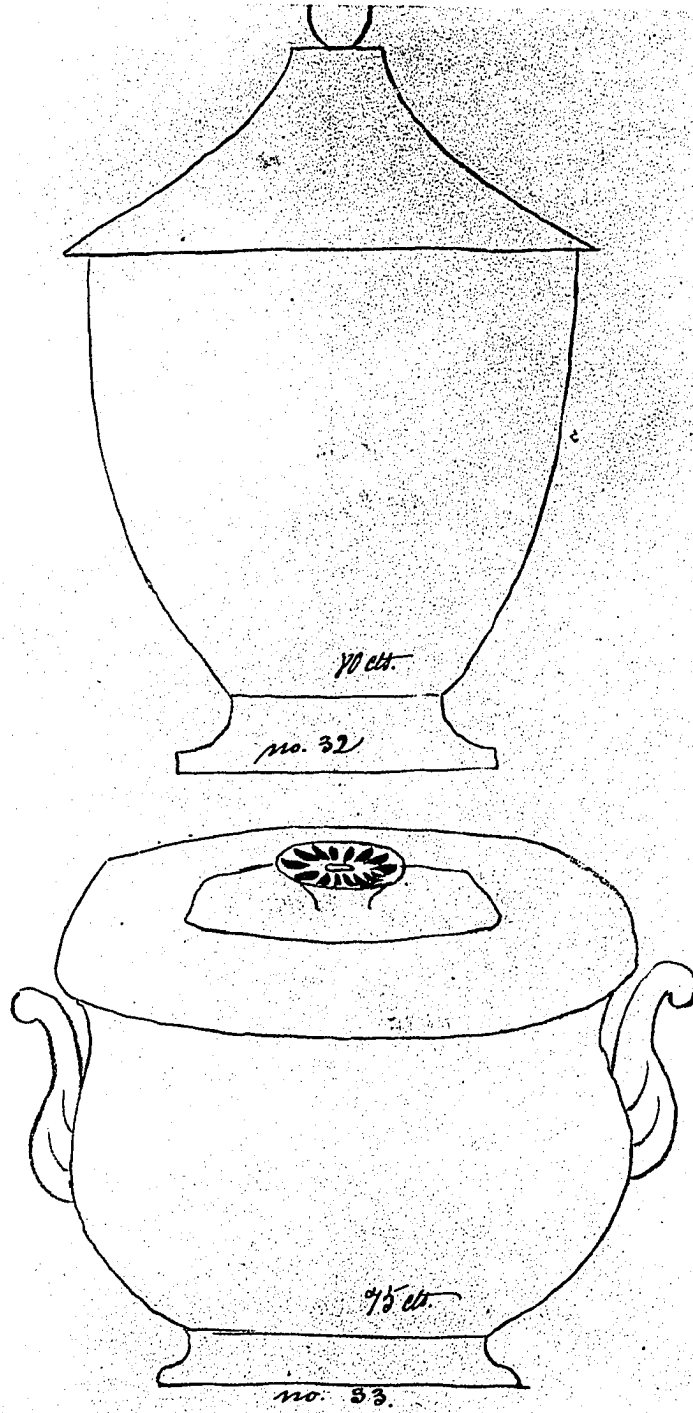


Plate VIII, c

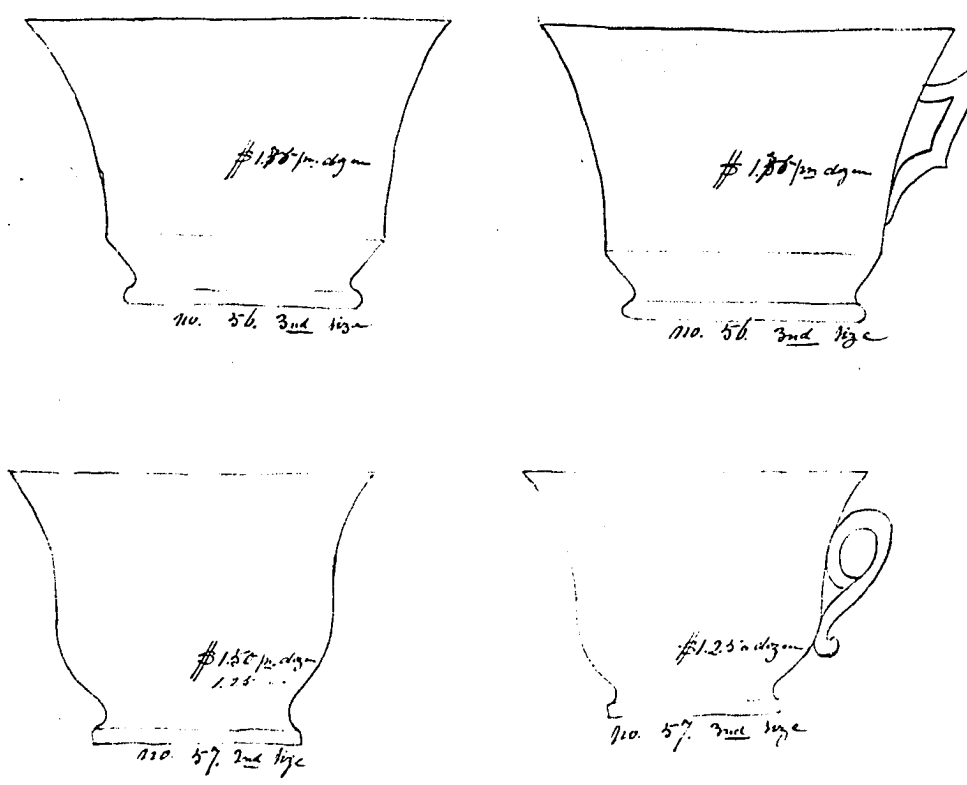


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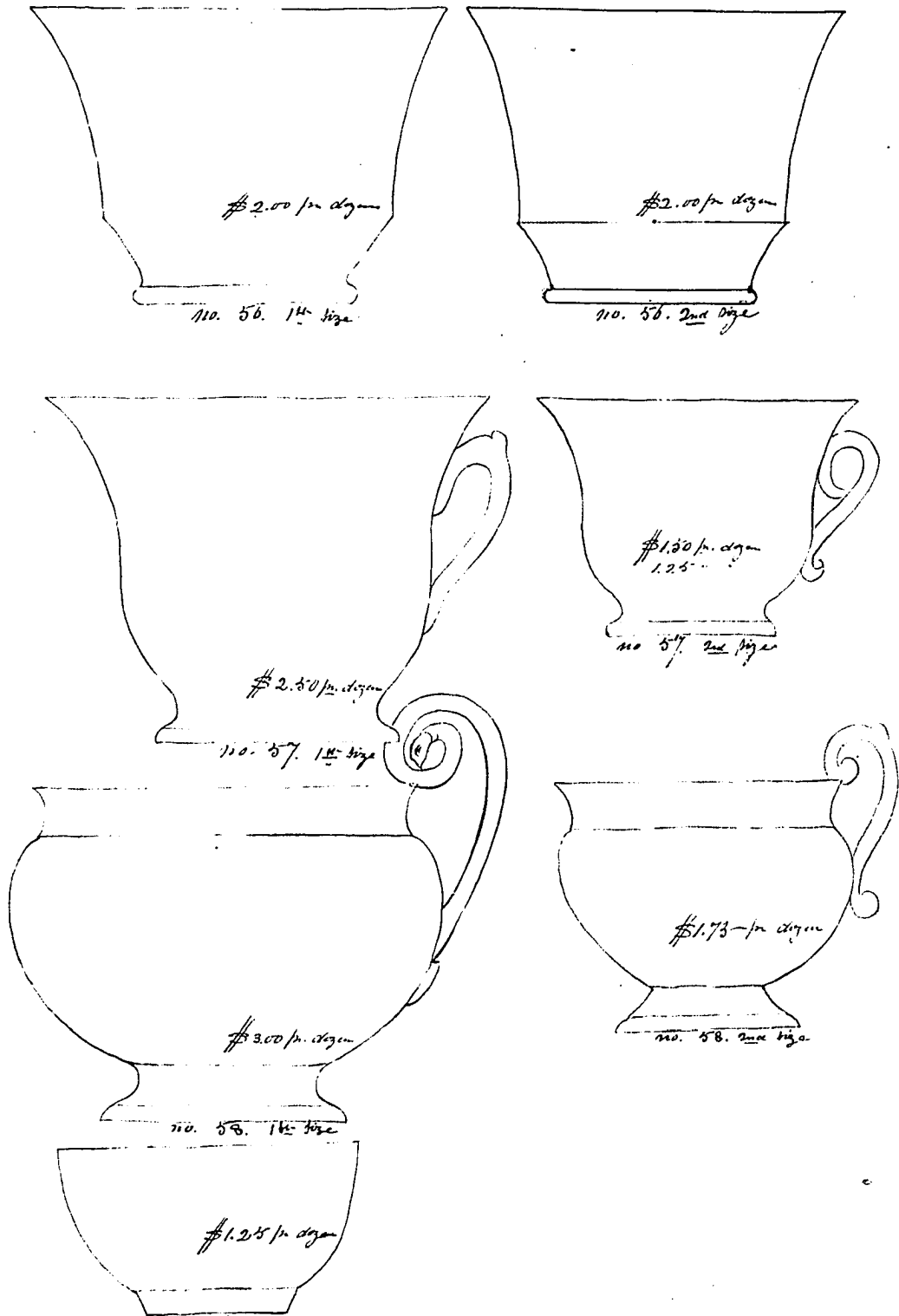


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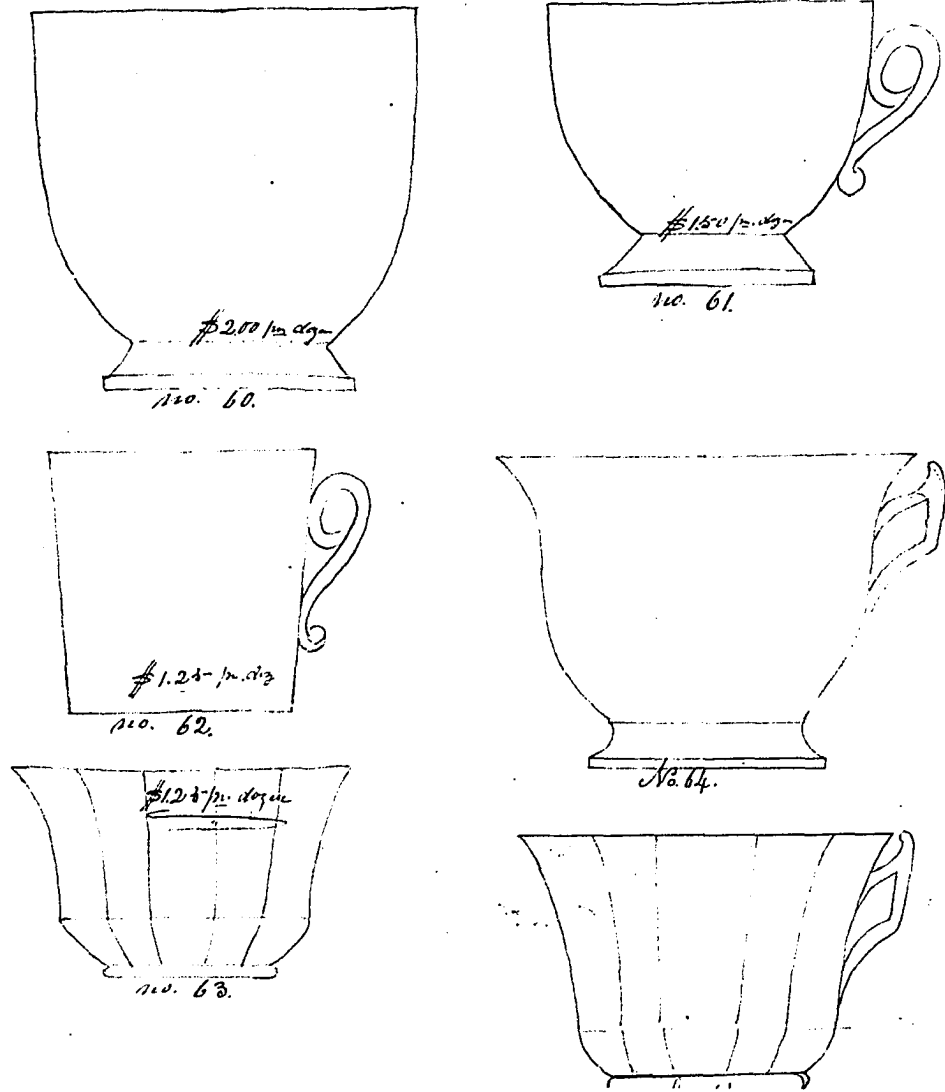


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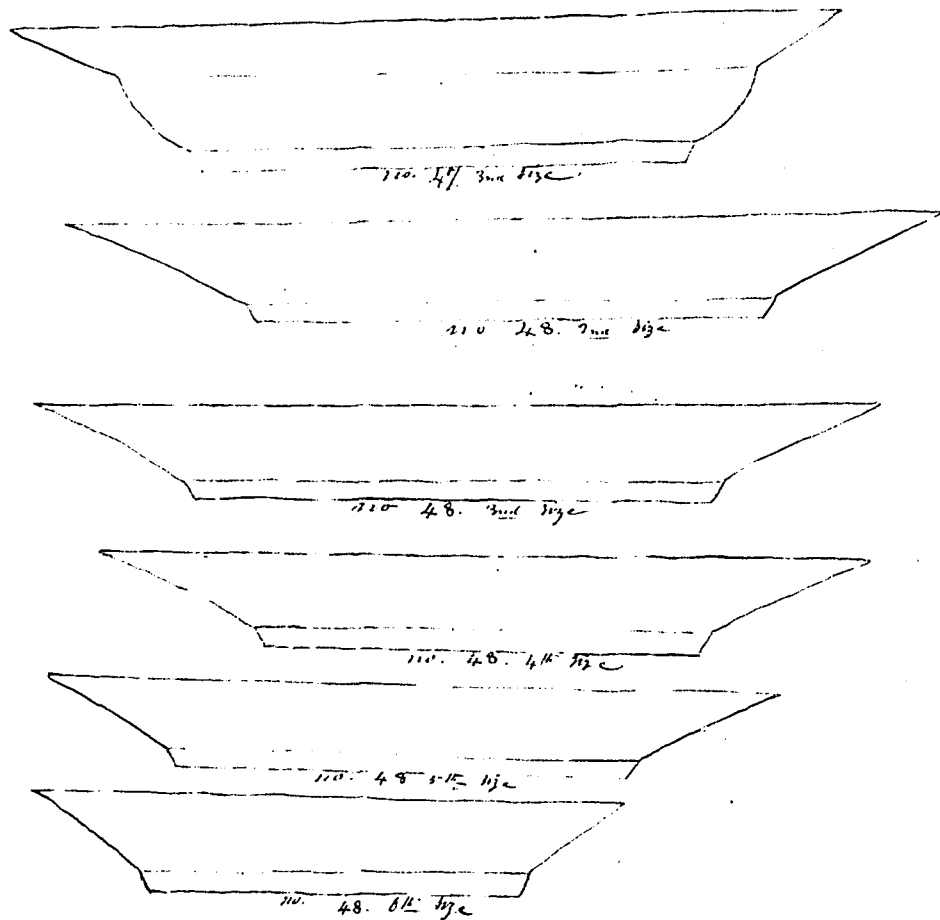


Plate X, a

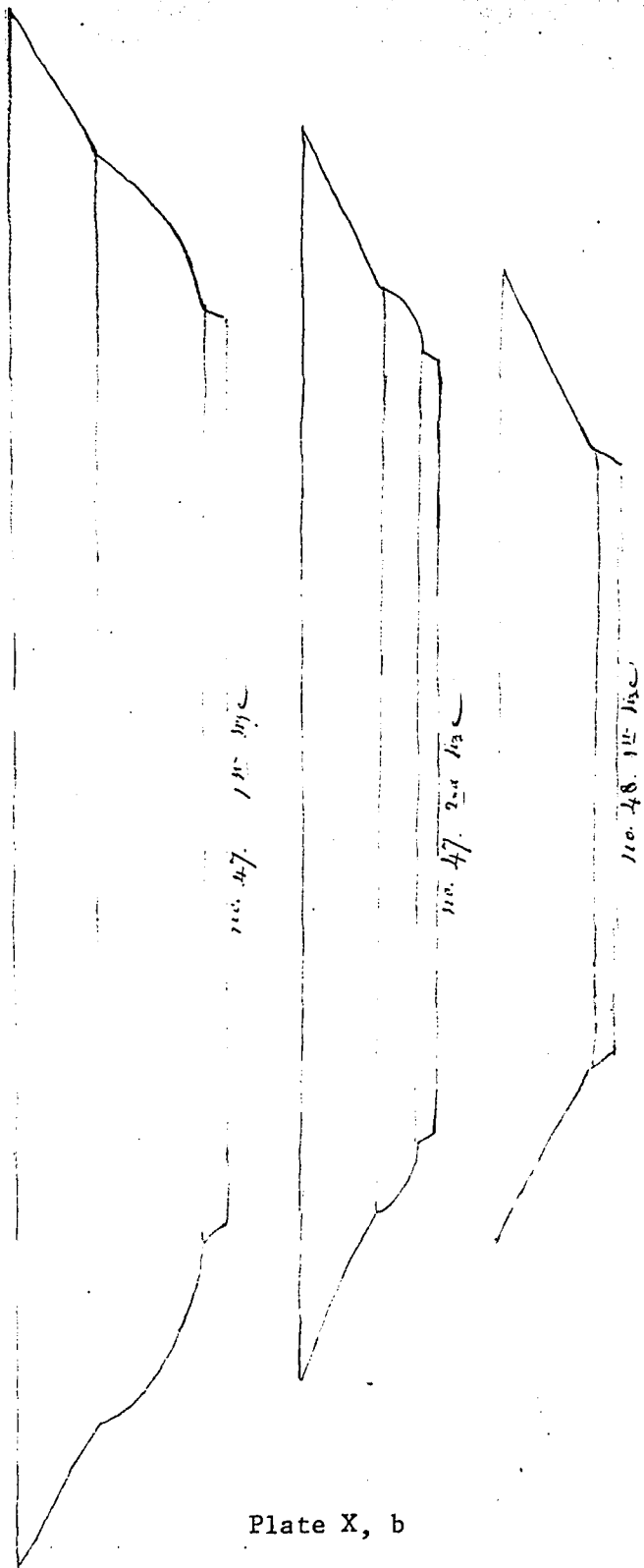


Plate X, b

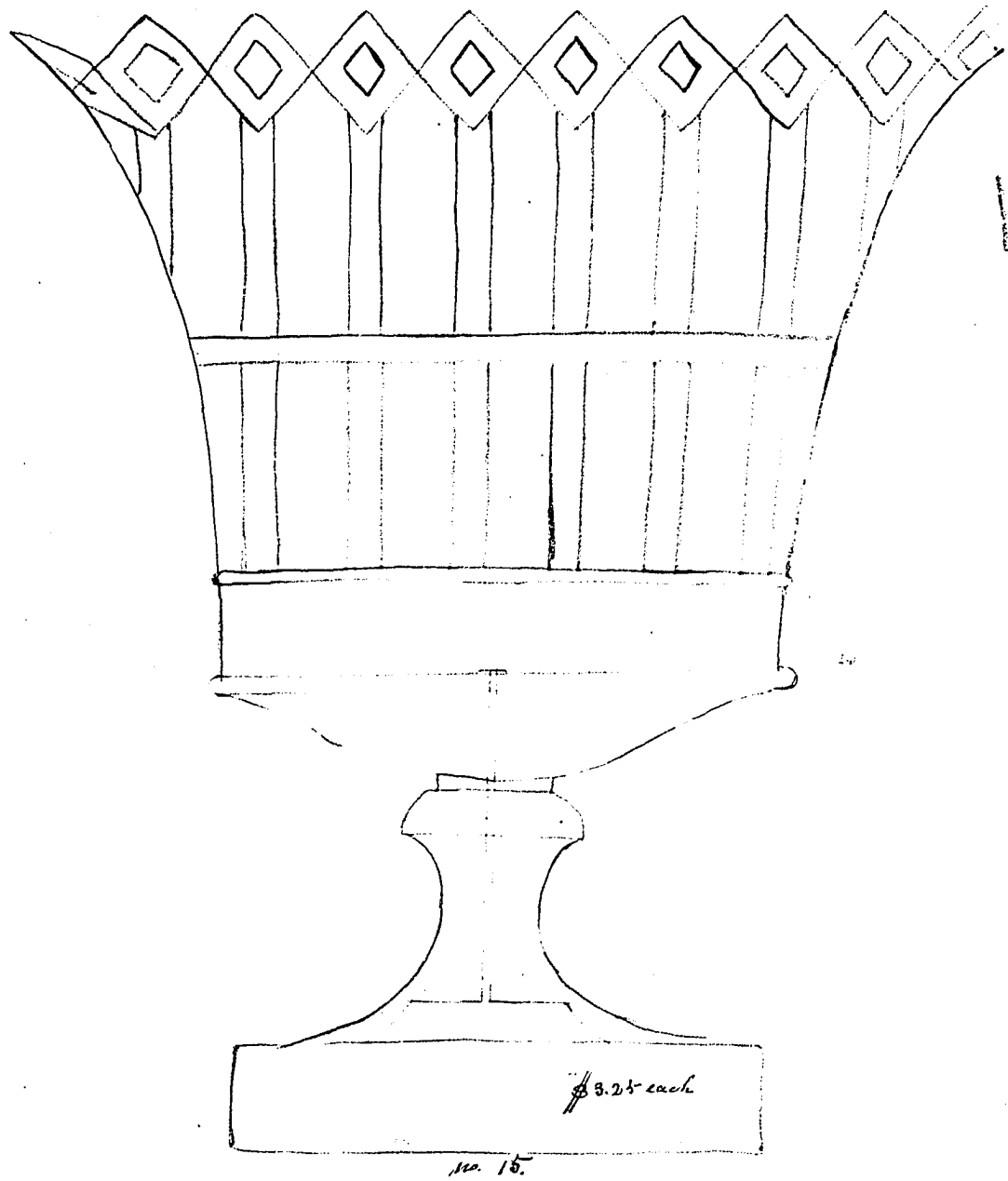


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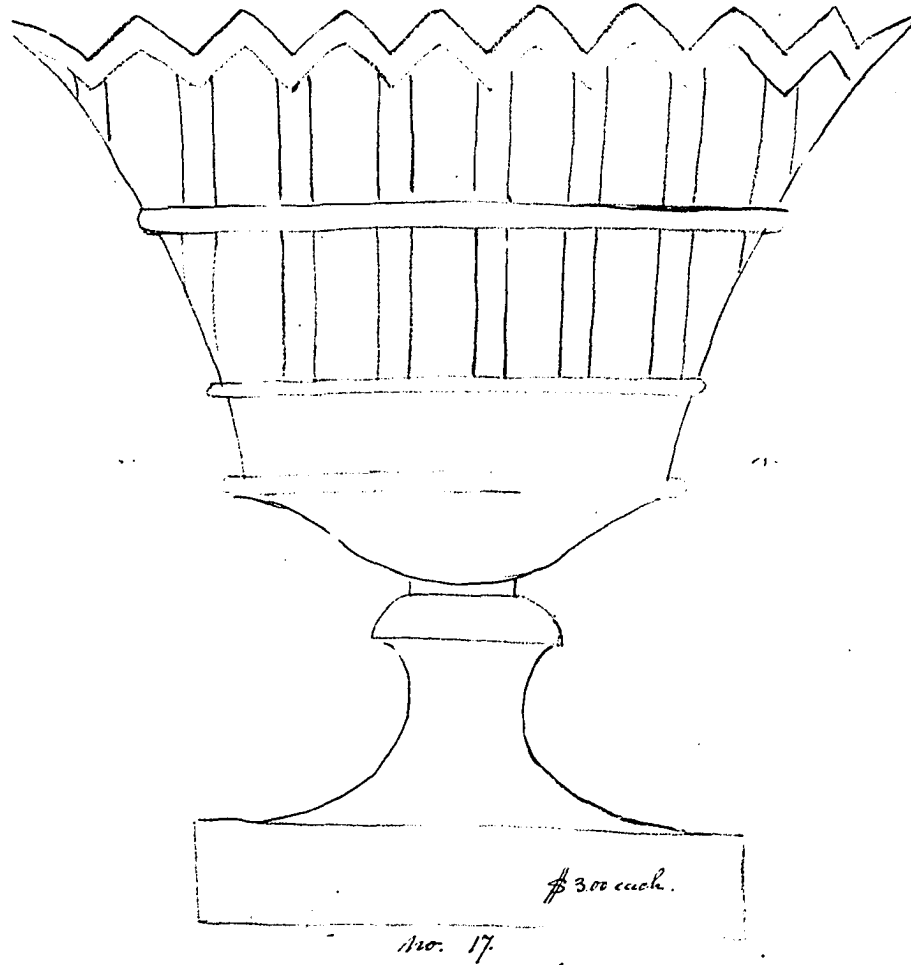
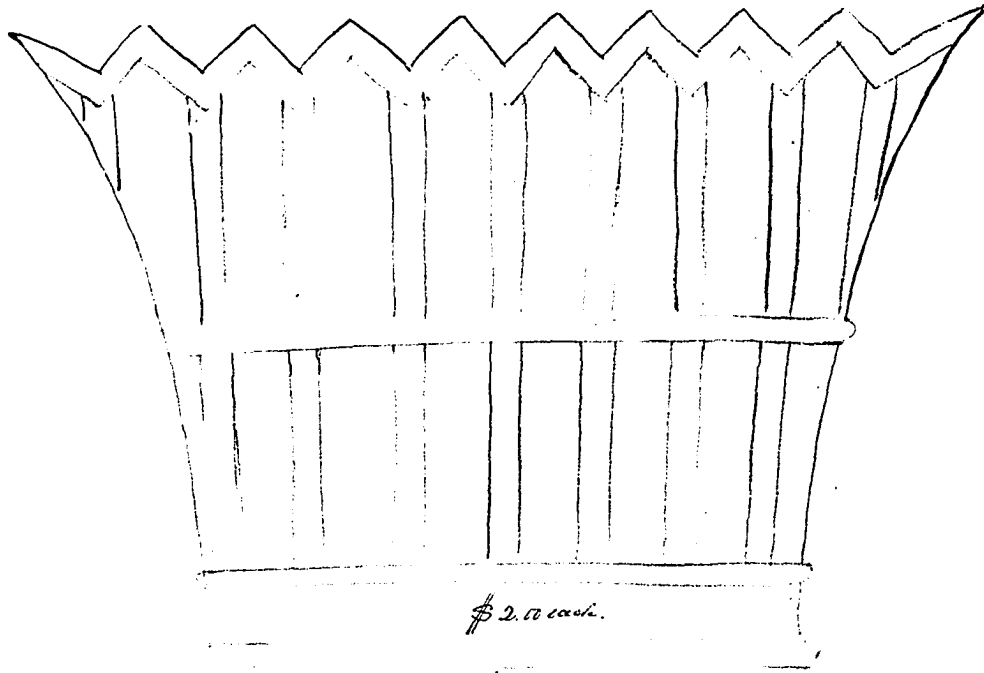
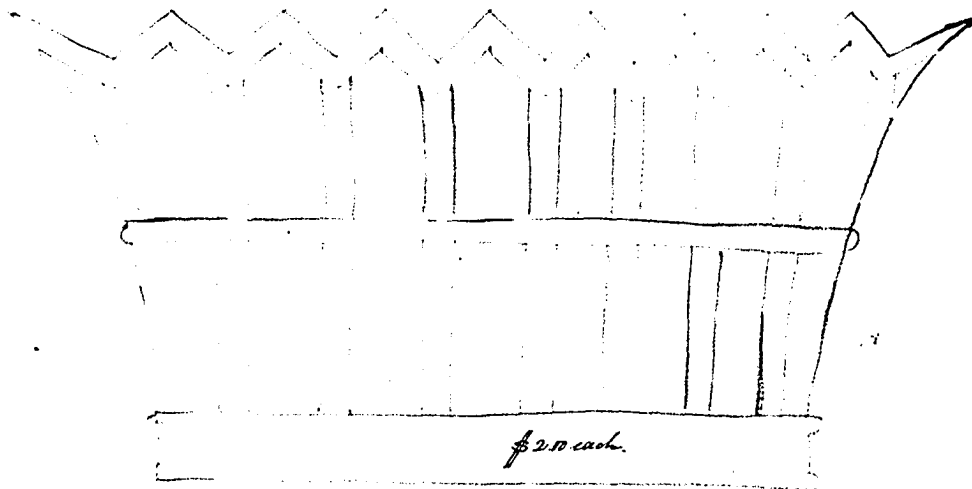


Plate XI, b



\$ 2.00 each.

No. 16. 1st size



\$ 2.00 each.

No. 16. 2nd size

Plate XI, c

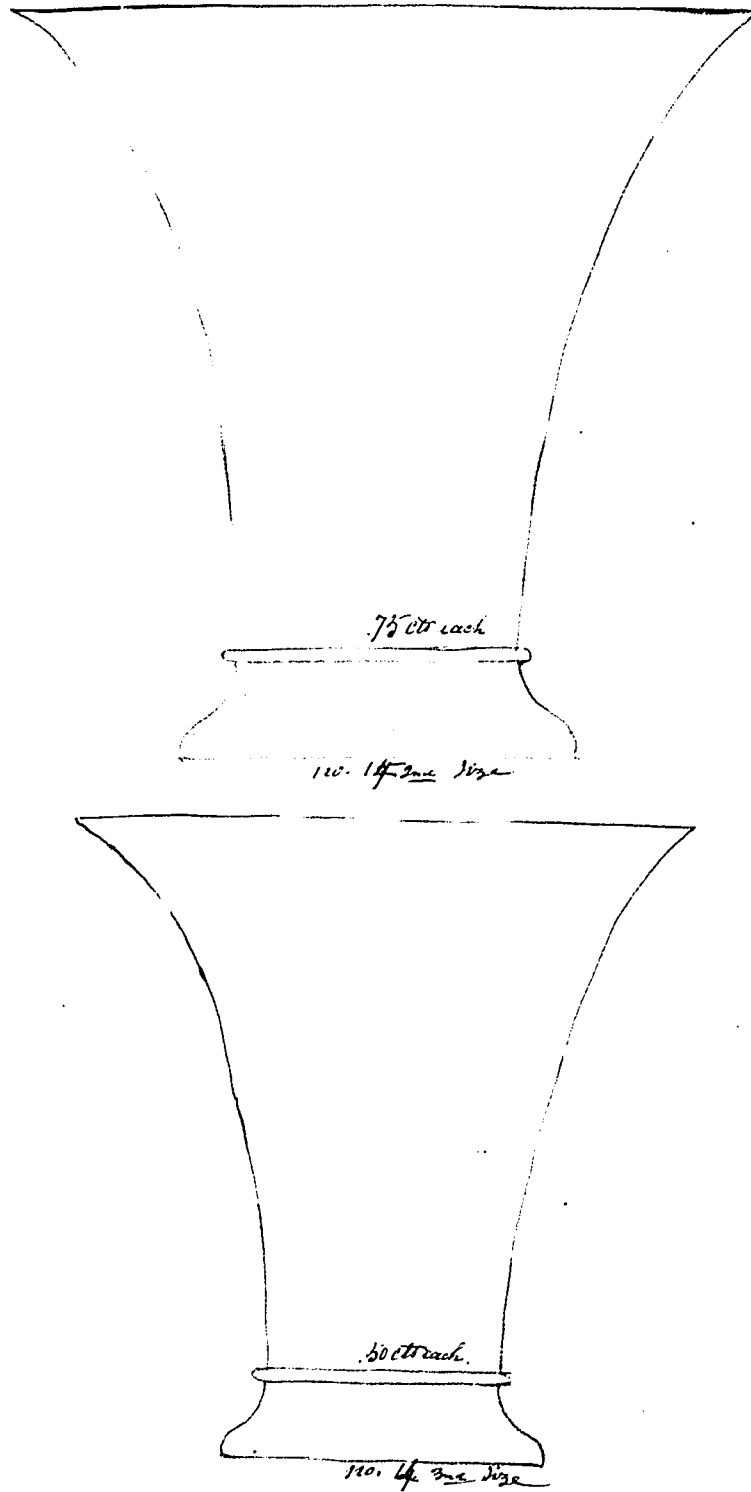


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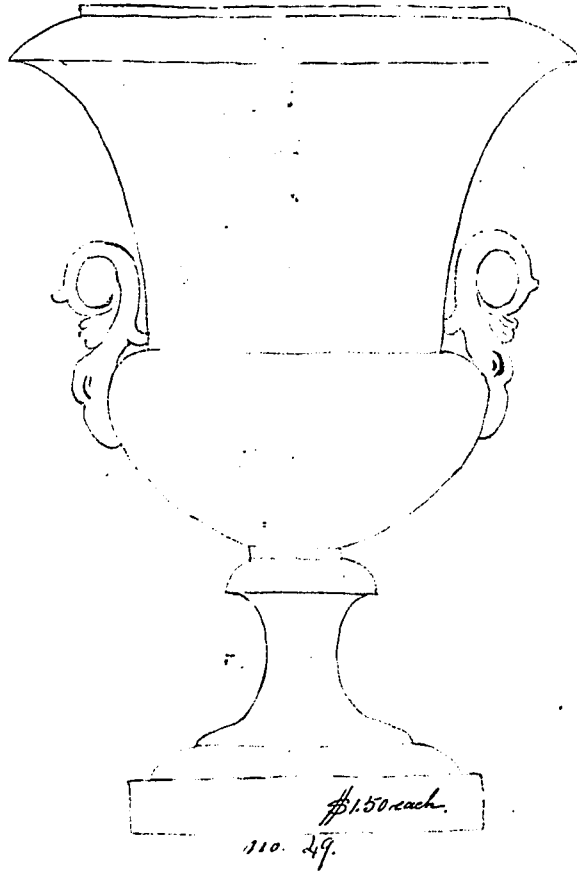


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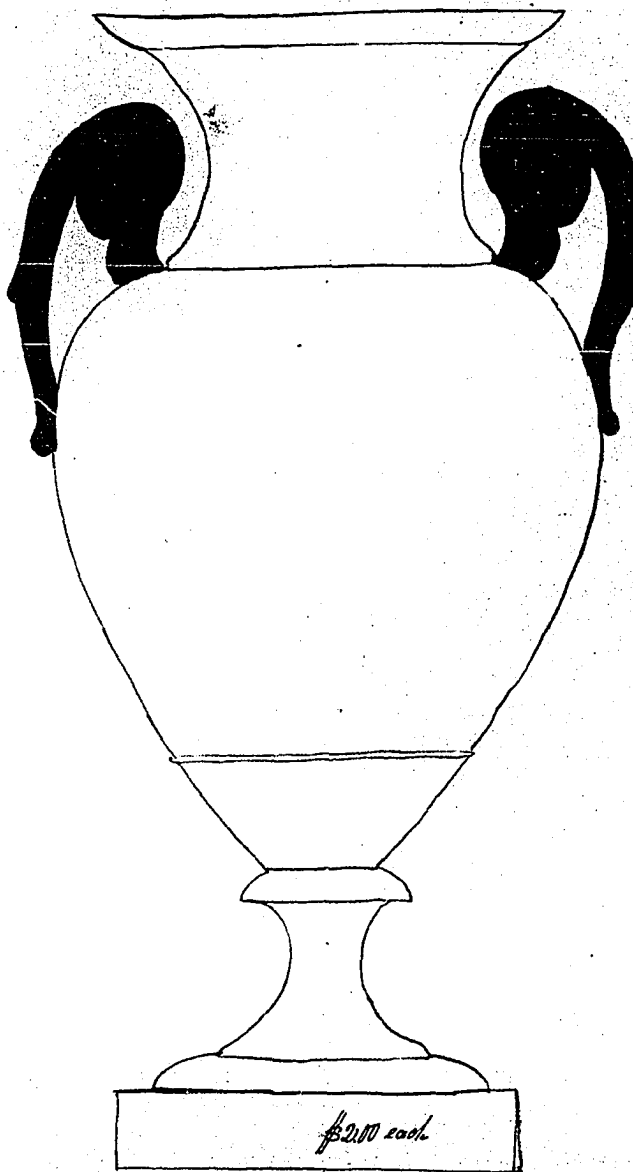


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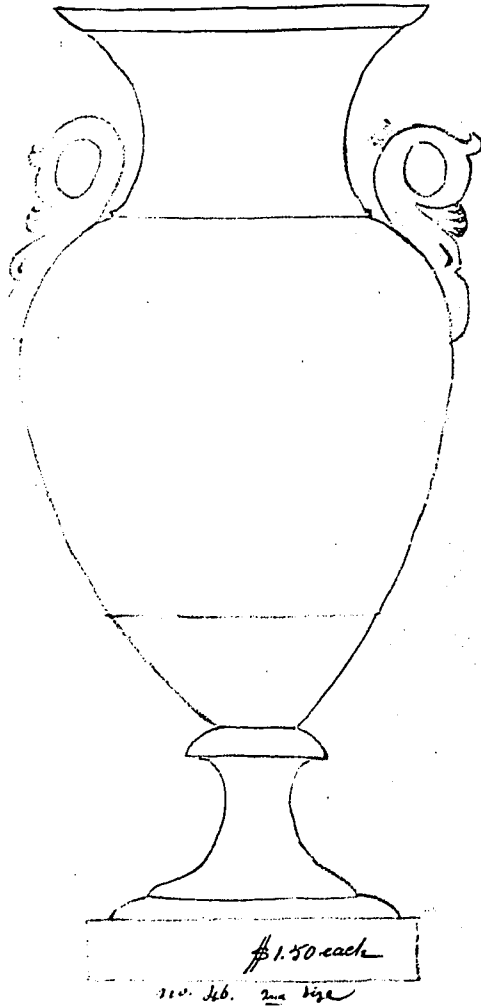


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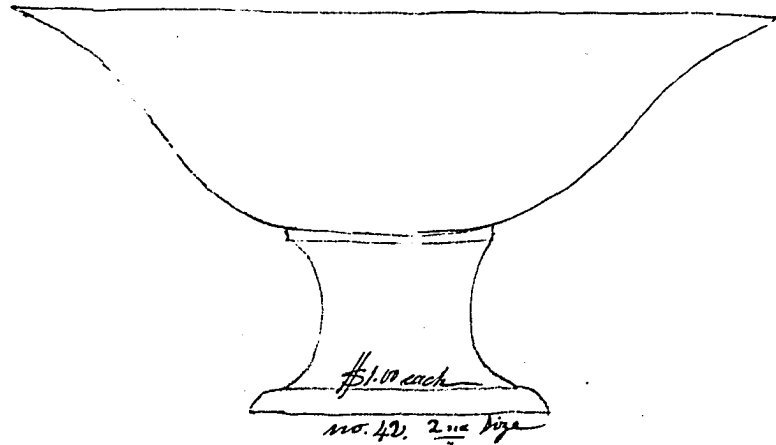
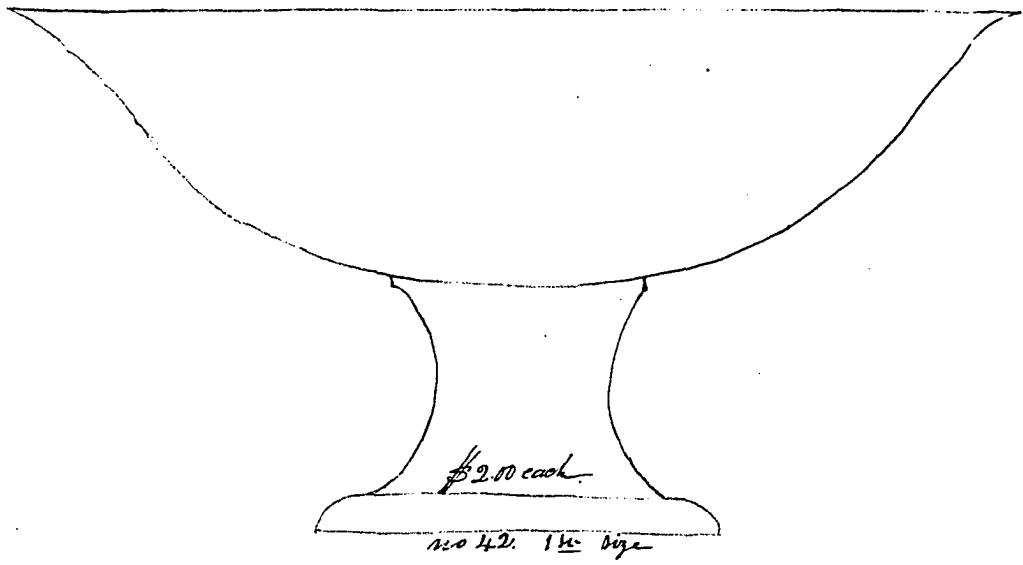
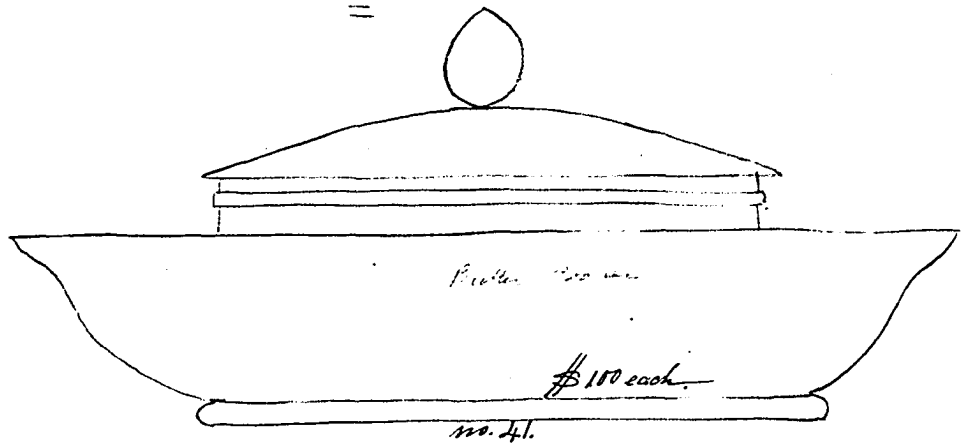


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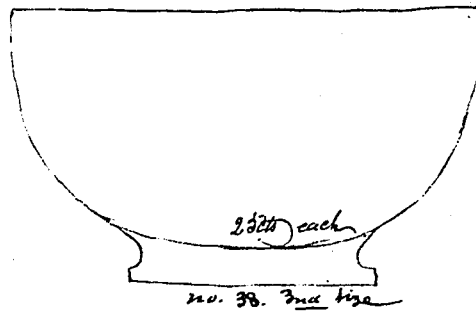
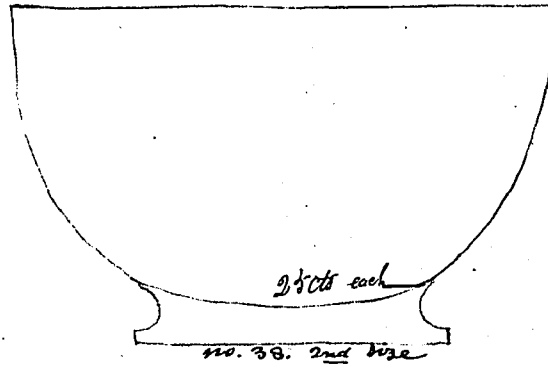
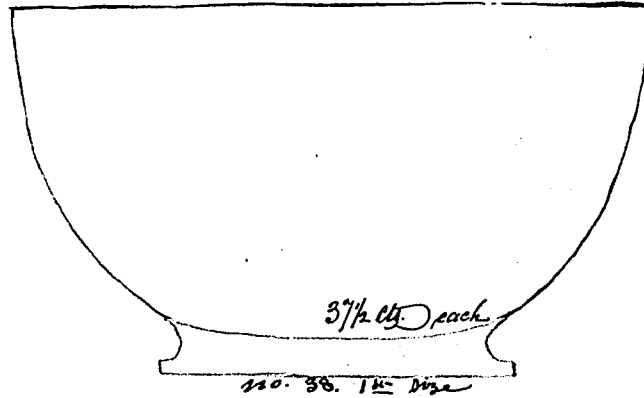


Plate XIV

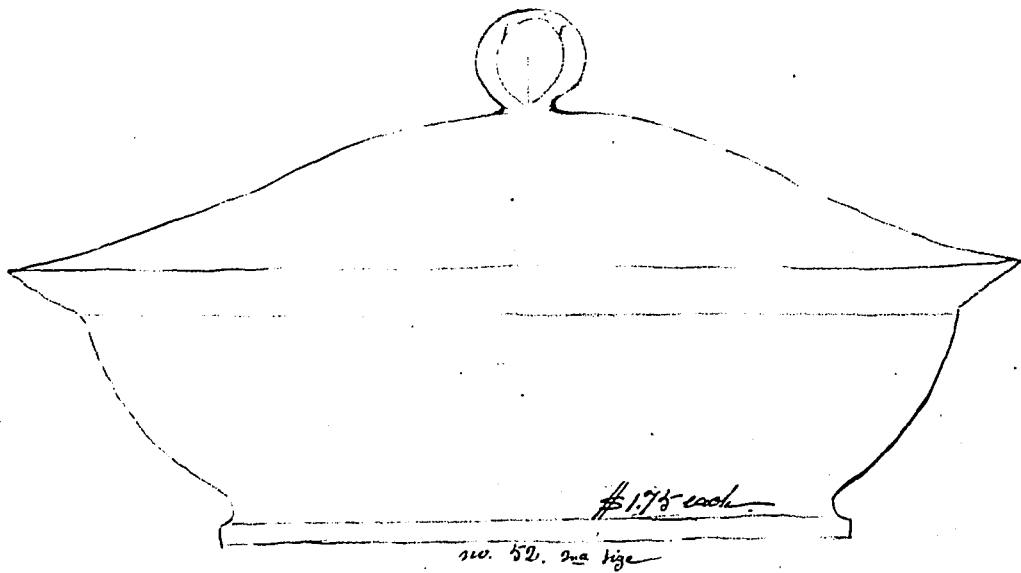


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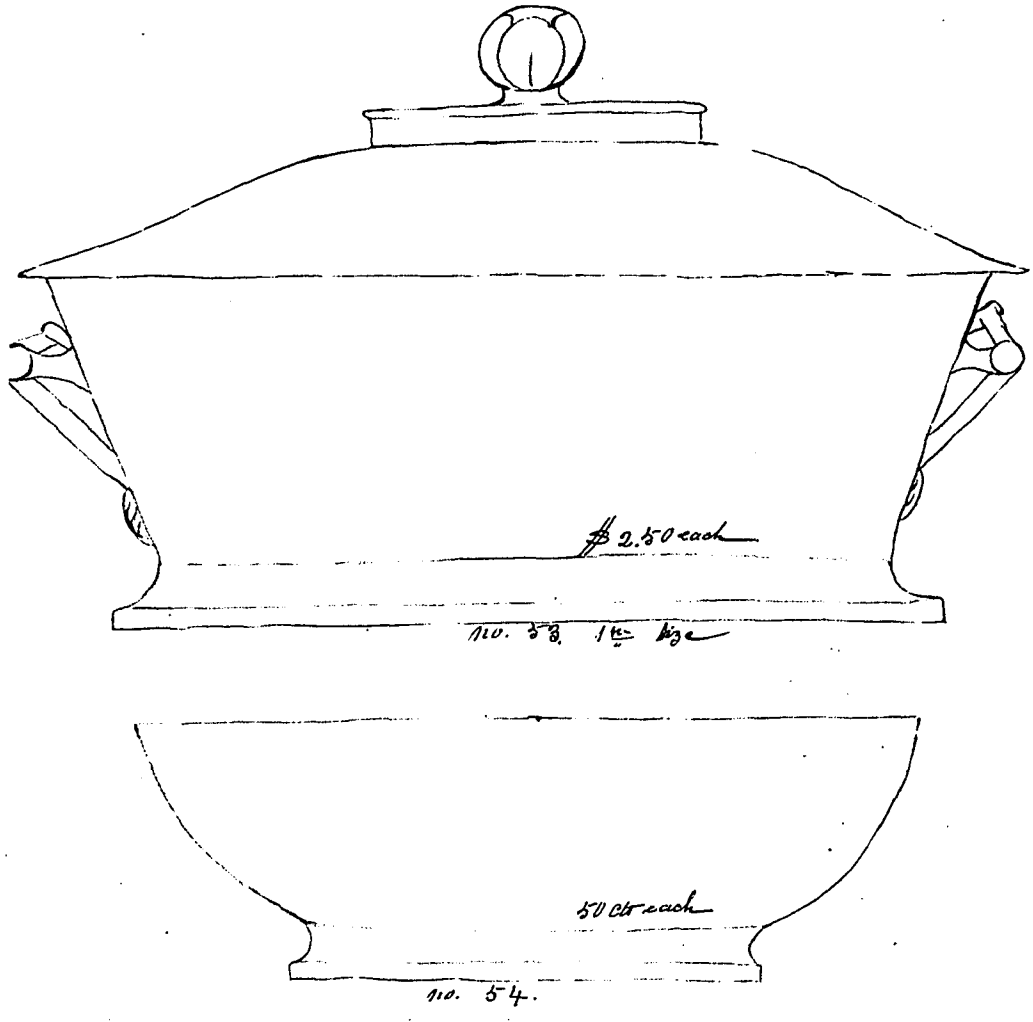


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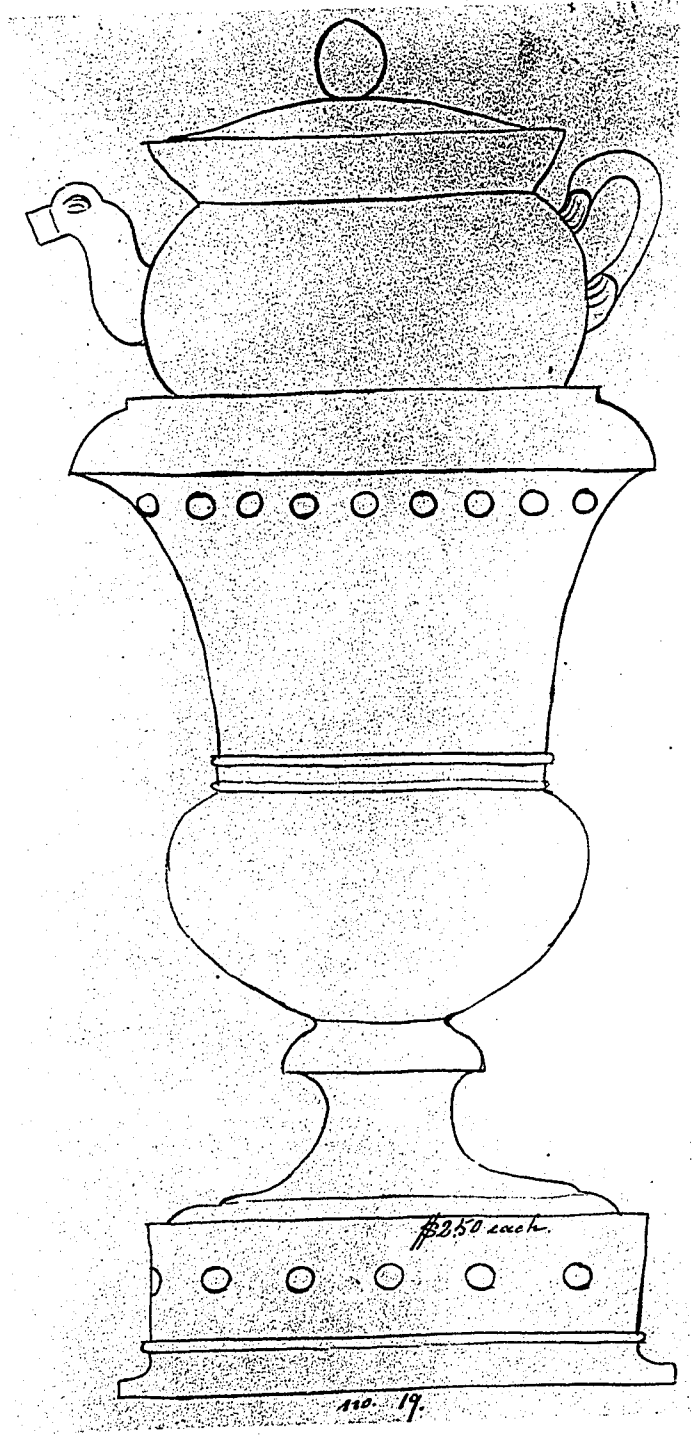


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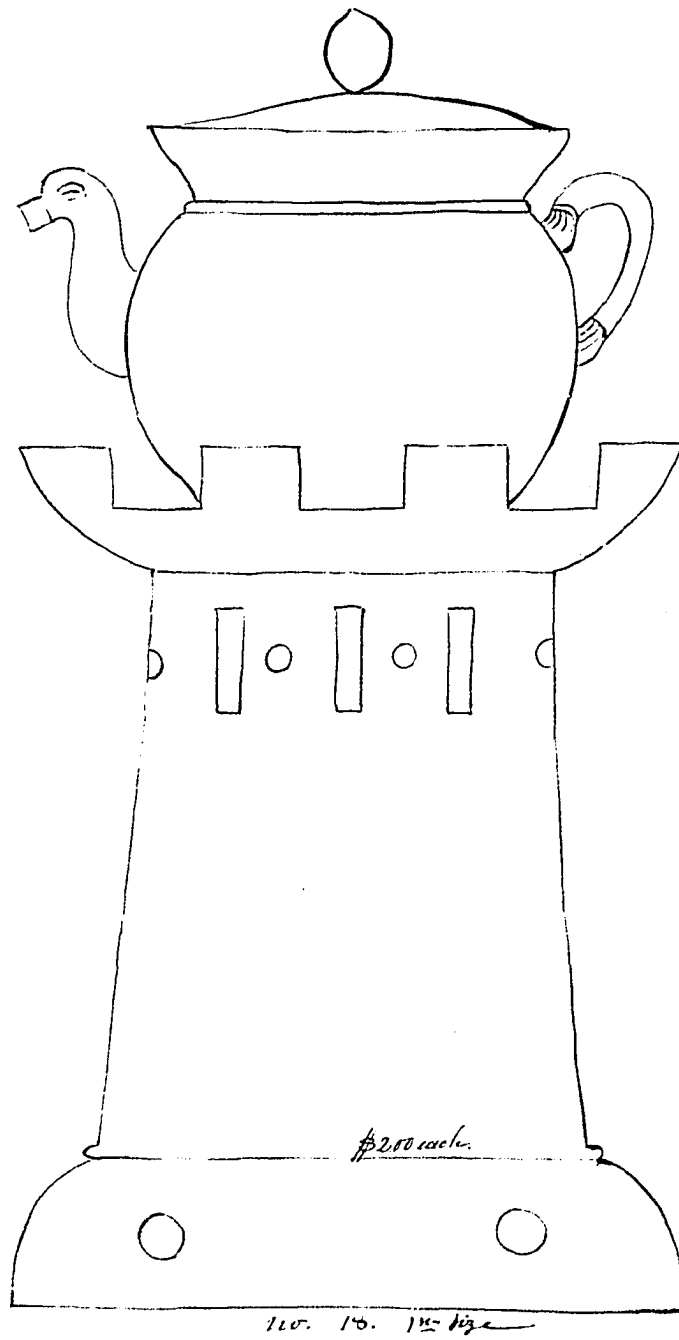


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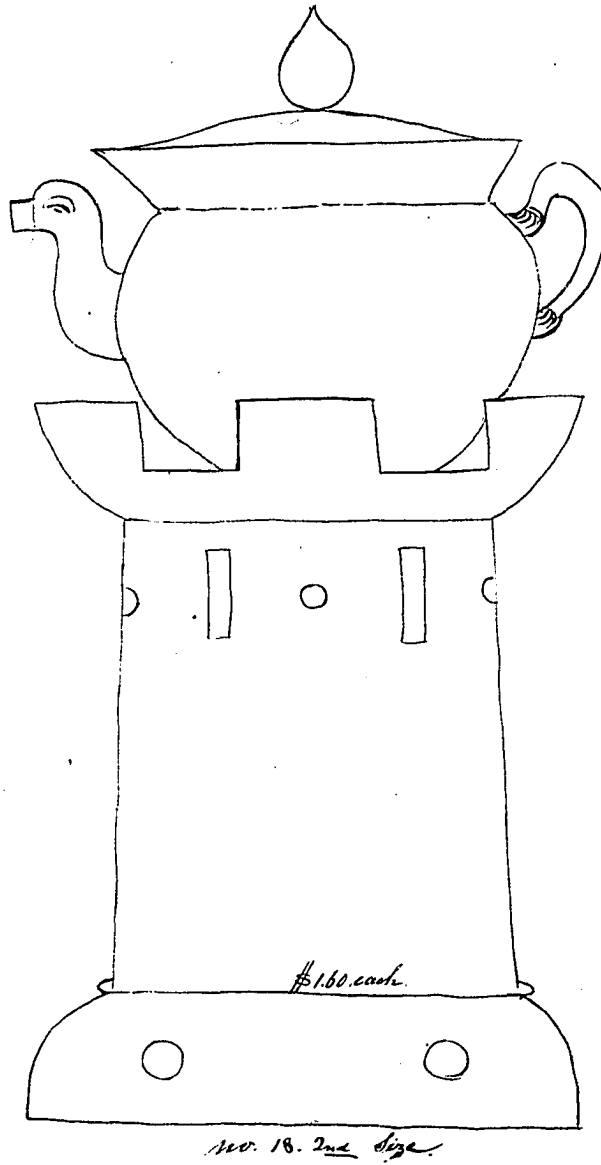


Plate XVI, c

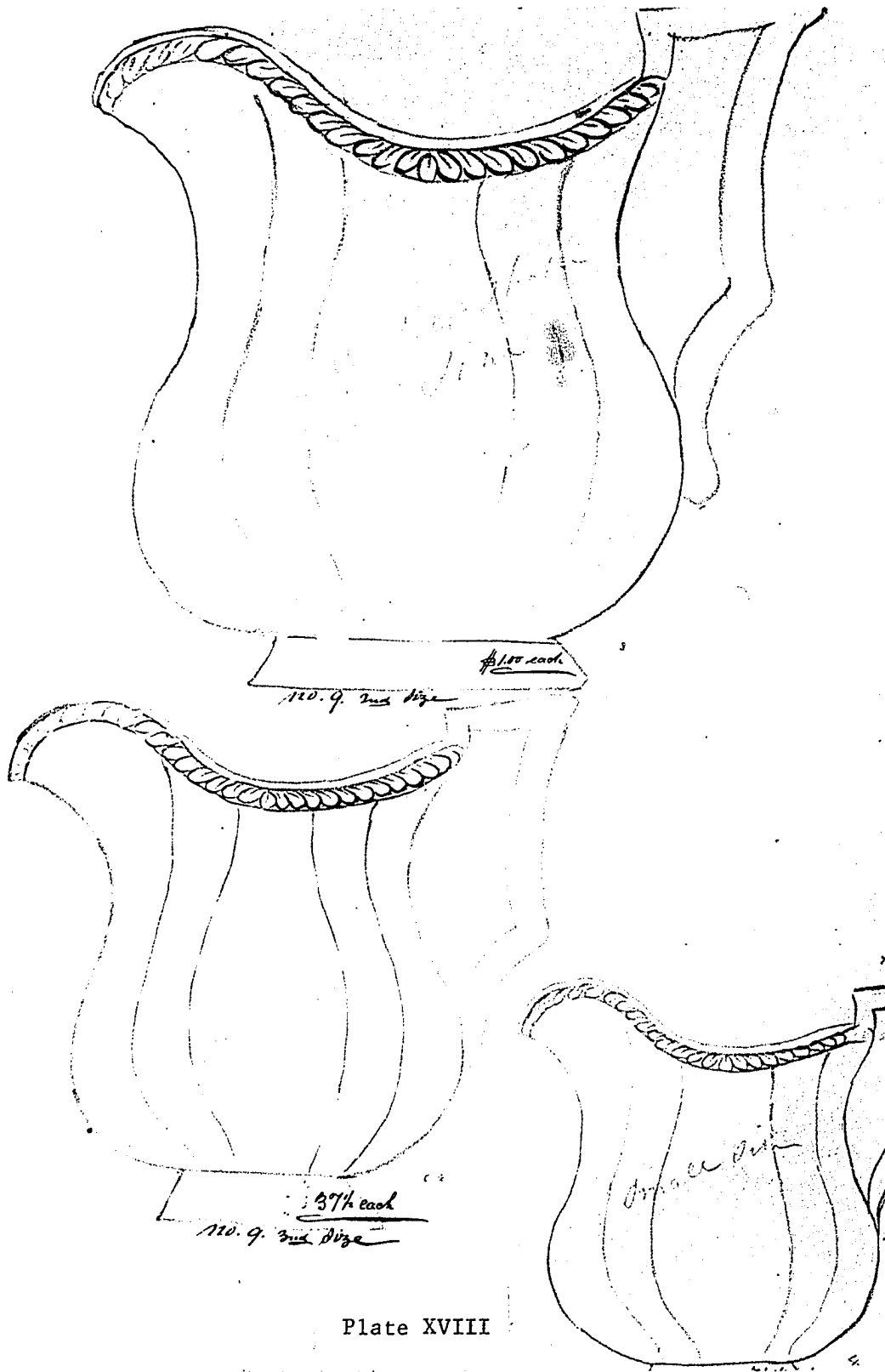
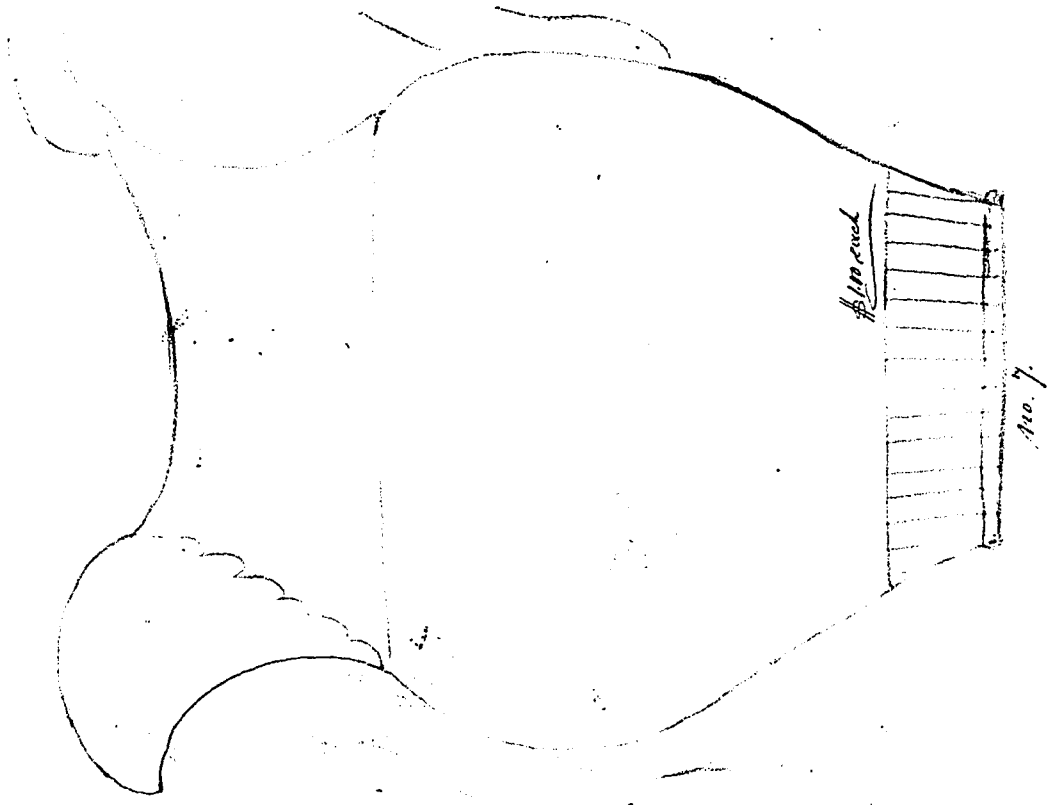
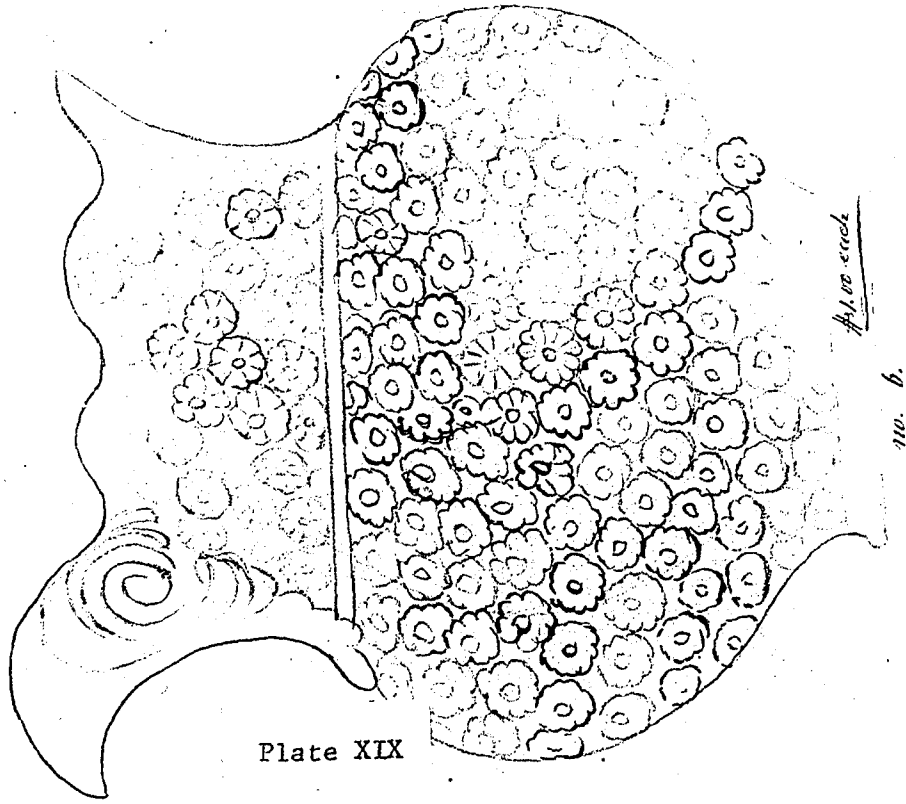


Plate XVIII



#110. 7.

no. 7.



#110. 6.

no. 6.

Plate XIX

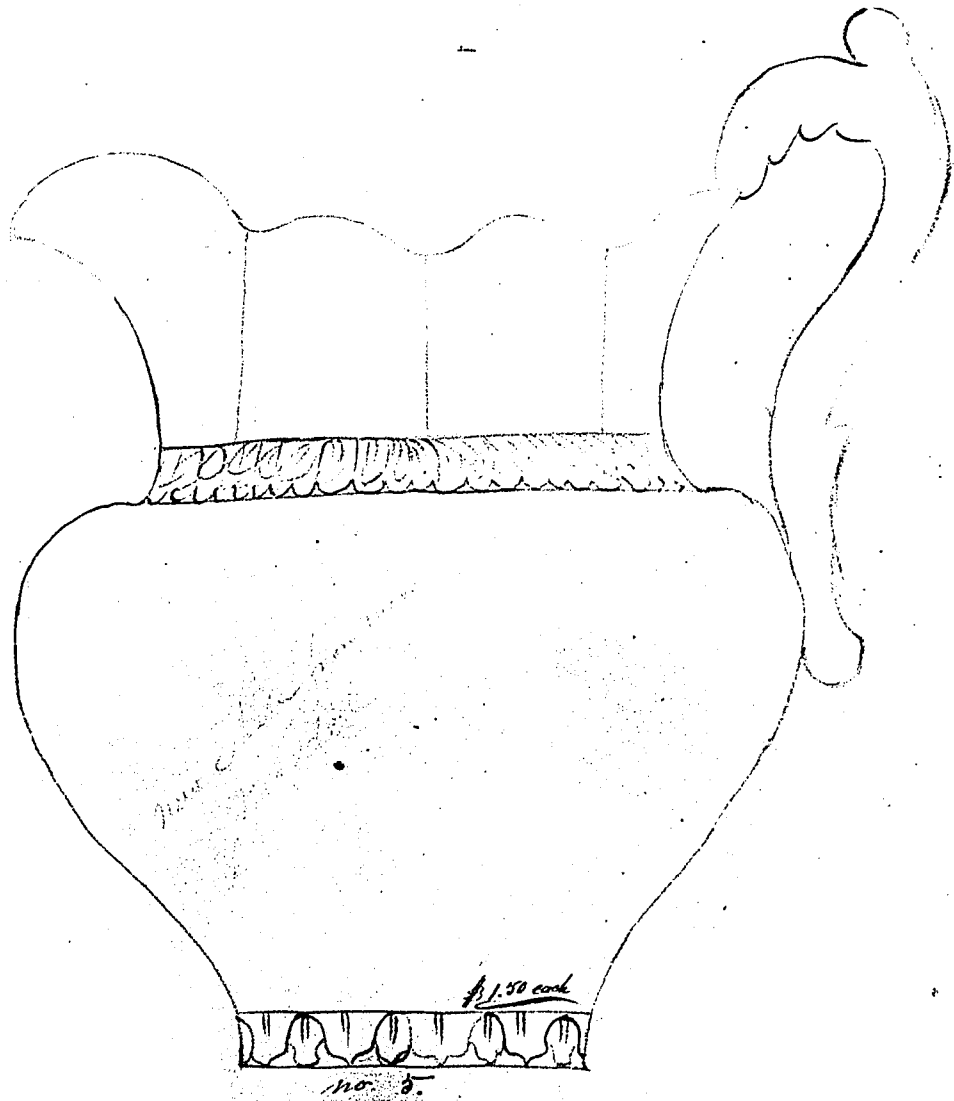


Plate XX

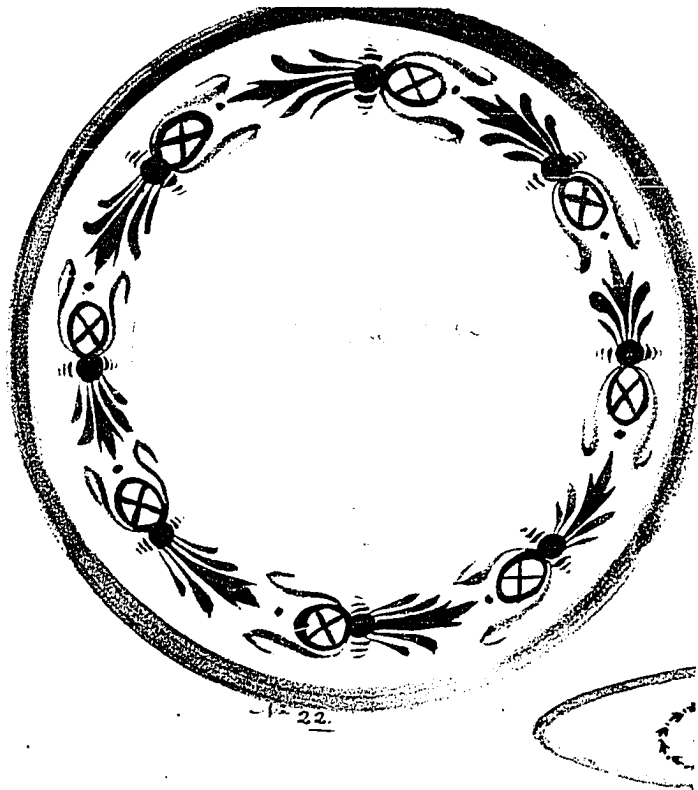


Plate XXI