Tall Chests

An appreciation

by Lester Margon

This impressive Chippendale-style chest-on-chest, now part of the Philadelphia Museum of Art collection, is attributed to Thomas Affleck, c. 1775. The bonnet top features a double scroll with pierced fretwork. At the center, an arrangement of oak leaves and acorns grows out of a basket. The flamelike pattern of the mahogany veneer is particularly elegant.

It is remarkable that so many cabinetmakers from various sections of the Colonies gathered in Philadelphia during the latter part of the 18th century. The roster includes such famous names as Thomas Affleck, William Savery, John Gillingham, Benjamin Randolph, Jonathan Shoemaker, Jonathan Gostelowe and a long list of equally skilled artisans. These men worked independently, but produced furniture of similar design and tremendous proportions. The result was a Chippendale-inspired school that was so firmly knit it seems as if they worked together. They made tall cabinets, secretaries, desks, mirrors and dining and living room furniture. But their greatest achievement was the highboy and tall chest of drawers, pinnacles in the history of cabinetmaking.

This extraordinary explosion of talent began around 1680 when William Penn squired a group of craftsmen from the Rhine Valley who settled near Philadelphia. These artisans were not willing merely to copy the European prototypes. They considered them too detailed with many intricacies that were foreign to the free-thinking conceptions of the colonists. Their work was of highest quality, even surpassing their contemporaries in England, and Philadelphia became one of the world's principal centers of cabinetmaking.

One of the foremost Philadelphia cabinetmakers was Thomas Affleck, a Scott, who was trained in England and emigrated to America in 1763. He made furniture for many wealthy and important people, among them the governor, who bought Affleck's beautiful Chinese Chippendale furniture. Affleck was the paramount figure in the cabinet and chair-making crafts and the leader of the Philadelphia Chippendale school.

Dozens of pieces of furniture have been attributed to Affleck. Today his work is considered the finest example of the Philadelphia Chippendale style. During the Revolution he sympathized with the Royalists, but this did not seem to affect the continued demand for his furniture. The important thing was his ability to produce elegant furniture for the stately manor houses then being built.

After Affleck's death in 1795, his son Lewis advertised in the Philadelphia papers that he would carry on in his father's shop. However, Lewis was not successful and soon gave up.

In the latter part of the 18th century, as people became affluent, the manor house found favor in the cities. This stately classical form of architecture featured living-room ceilings that reached a height of 10 ft. or more. The cabinetmakers of the day tried to satisfy the increasing demand for elegant furniture to fit into these interiors. One result was the high chest, which often reached 9 ft. tall, including the carved center ornaments. These cabinets contained many drawers to hold the necessary service articles for gracious entertaining. The demand for these highboys was tremendous and as they became the center of attention in the fashionable living room, their prices became astronomical. This trend continues today: A highboy recently brought $40,000 at auction. The appraised value of the original Kittinger high chest, which some experts attribute to Affleck and now part of the Yale University collection, is $100,000.

Each part of these Philadelphia highboys was expertly made. Aprons were fashioned in cyma curves; stretchers flowed in graceful lineation. Flowers, rosettes, urns and principal pinnacles were exquisitely turned and often included graceful cartouches. Featured at the top of the crown were pediments perforated at the center to receive flaming torches, turned finials, baskets of flowers or perhaps the bust of a fair lady. Chippendale fretwork was often applied around the upper portion along with carved festoons, drapery effects and stalactites. Pilasters were fluted and corners chamfered or decorated with carved flowers and leaves.

Caribbean mahogany was perfect for carving and the Philadelphia cabinetmakers were masterful carvers. The precise scale and placement of the carving was a matter that received careful study. Restraint was mandatory. Carving is like the icing on a cake: It must be just right or it will appear superfluous.

Lester Margon, 85, is the author of five books on American furniture. His More American Furniture Treasures, *Architectural Book Publishing Co., New York, 1971, contains measured drawings of the tall chests pictured here.*

This high chest from the collection of the Museum of the Rhode Island School of Design is also attributed to Thomas Affleck, c. 1765. The two applied carved panels on the drawers at top and bottom contain concave shell carvings for depth. Convex shell carvings appear at the knees of the cabriole legs.

Tall Chests

The art of proportioning

by Timothy Philbrick

As colors can evoke emotions within us, or combinations of notes and tempos suggest joy or sorrow, so can proportions in furniture produce a desired effect on viewers. Objects built to the same proportions, although different in period, style and composition, can still evoke similar reactions. Proportions set up and define the framework within which the furniture maker expresses himself. The very selection of proportions, or lack of selection, affects the success of the maker's intention as perhaps no other single factor can. In furniture studies, the often-used term "integration of design" must be explained in proportional terms, as well as in terms of structure and decoration.

The esthetics of proportion is today a lost, or at best a well-hidden, science because of the current clinical separation of science from art. The following investigation is an attempt to uncover proportioning systems used by 18th-century cabinetmakers. It should be of use to designers and connoisseurs today.

Most texts on 18th-century furniture contain comments such as, "The old workmen had an instinct for good design." Their authors assume that master cabinetmakers and craftsmen had some mysterious, built-in instinct for proportioning. While this may be true of some country cabinetmakers, great design is not just a "feeling," but a carefully planned and consciously applied system of relationships, learned in a rigorous apprenticeship to an old tradition.

Proving that a system of proportions has been deliberately applied in a piece of furniture is no easy task. In studying a piece of furniture, one can easily be misled into finding those ratios one sets out to find. Unfortunately, little research has been done on the subject and few written records of proportioning systems exist. Ratios were passed on verbally during the cabinetmaker's seven-year apprenticeship. The phrase "Art and Mystery of the trade," seen in the apprenticeship contracts of the period, refers to the study of proportions and geometry, together with skills and techniques. Unfortunately, the "Arts and Mysteries" were a verbal tradition and are now extinct.

Naturally, all furniture has some proportions in common for it must conform to the proportions of the human body. If furniture is to be functional sculpture, its height must relate to its purpose and this measurement will serve as a starting point in calculating proportions. The Danish furniture de-

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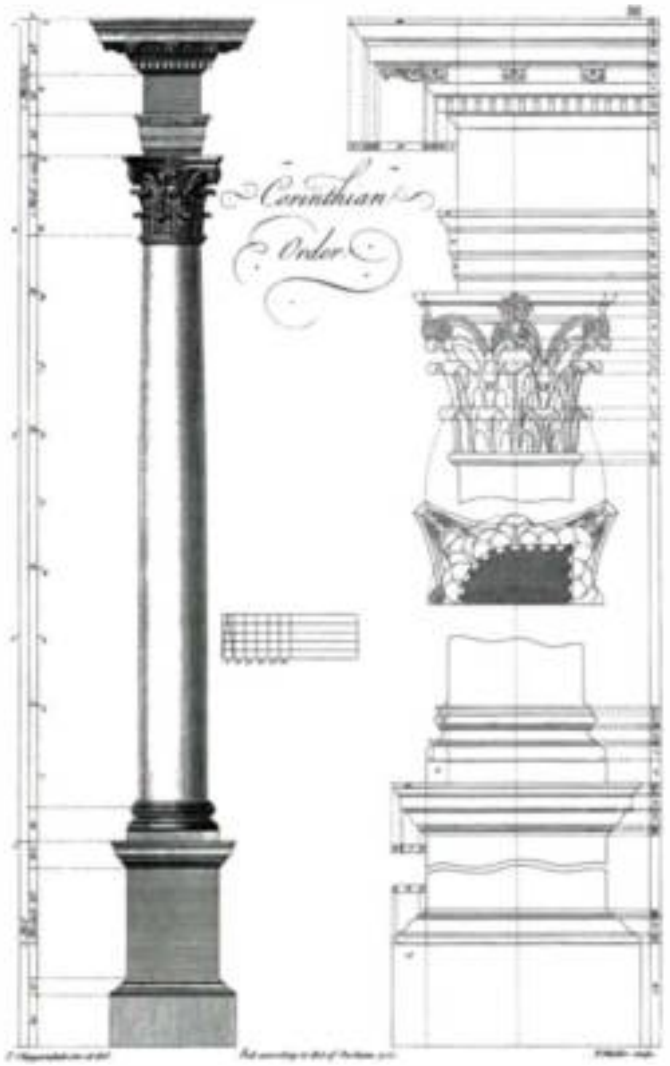


The Corinthian order, from Chippendale (Dover reprint, 1966). Column is scaled in 'modules' that equal its diameter, moldings at right are dimensioned in sixtieths of a module.

signer Kaare Klint has defined optimum chair height at 16 to 18 in., table height 28 to 30 in., standing working height 40 to 42 in., maximum vision height 54 to 56 in., and maximum reach 76 to 84 in. These measurements are not new; they served the 18th century as well as modern society.

Great American high-style furniture designers also used traditional proportions long known in buildings, paintings and furniture. Whole numbers have been important since classical times: Whole numbers and their simple relationships (1:2, 2:3, 3:4, 4:5, 5:6, 6:7, etc, and 3:5 etc) were the expression of perfection and, therefore, the divine. These simple relationships have been the framework for a vast amount of artistic creation. The medieval artist had little mathematical knowledge, but knew well how to use his compass, so the basic division of the square and circle naturally was his proportioning vocabulary.

As Arabic geometry began to permeate the decorative arts of the 13th century, the tools for the Renaissance were provided. A reverence for geometry and mathematics as the ultimate expression of perfection was even more pronounced. The basis of the Renaissance desire for simple, measurable relationships was the concept of universal proportions. These concepts from Renaissance Italy first began to affect American furniture in the late 17th century in the William and Mary style. The major dimensions are made divisible by a common integer, 5 or 6 usually, in the basic combinations of 2:3, 3:4, and 4:5. Press cupboards for example, tend to be in the ratio of 4:5, width to height (e.g., if the width is 48 in., the height is 60 in.). In the early 18th century, with the advent of the Queen Anne style, visual proportion and geometric ratio are expressed in both furniture and architecture. In Queen Anne chairs, for example, heights to widths of backs, and heights of legs to widths of seats are directly proportional.

The Chippendale style

In the second half of the 18th century, an increasingly pervasive emphasis was placed on the importance of classicism. From James Gibb's *Rules for Drawing the Several Orders* (1731), Chippendale's *Director* (1754) and *The Carpenter's Co. of Philadelphia 1786 Rule Book*, to the work of Thomas Sheraton (1791-1794), the proportions of the five classical orders of columns became one of the most widely written-about topics. Thomas Chippendale, in his introduction to the first edition (1754) of his *Gentleman and Cabinet-maker's Director*, says: "I have prefixed to the following designs a short explanation of the five orders. These ought to be carefully studied by everyone who would excel in this branch, since they are the very soul and basis of his art."

Chippendale felt these orders and their proportions important enough to devote the first eight plates of his book to drawings and descriptions of their proportioning. Throughout Chippendale's work, emphasis is constantly placed on the ratio of height to width. Even the contours and form of moldings are worked out by a specific system. In Chippendale's drawings Rococo decoration and ornament are united with disciplined geometrical principles.

In the work of Thomas Sheraton, classical proportion is given an even more elaborate role. His drawings, like Chippendale's, are presented in a precisely proportioned framework. His introduction informs us that the first part of his book "provides the workman with geometrical lines applied to various purposes in the cabinet branch, (which) can not be subject to alteration any more than the principles of reason itself." The first 146 pages of Sheraton's *Drawing Book* are devoted to geometry, including 30 pages on the five orders; the remainder are studies of perspective, showing how to obtain working measurements from perspective drawings.

The importance of the five orders to these men is hard for us to understand today. Sheraton explained it this way: "Many cabinetmakers are found desirous of having a knowledge of the five orders, and the proportions of the several frontispieces...I believe that the orders are now brought to such perfection in their proportions as will bear the strictest mathematical examination...I consider them incapable of improvement." He also wrote that nothing more worthy can appear in a drawing book and that a knowledge of these moldings and proportionings is necessary to any man of culture and to all craftsmen.

The golden section is probably the most ancient and widely revered proportional system. It has been used for such diverse purposes as establishing the date of Easter and proportioning Jacques Villon's paintings and Le Corbusier's buildings. In antiquity, Egyptian and Druid builders alike used the golden section to plan their temples and to proportion other artwork. The golden section represents the division of a line into two parts such that the smaller part is to the larger as the larger is to the whole. In the diagram below, BC:AB = AB:AC. The geometrical division of a line into these proportions is fairly

straightforward with compass and rule. But if the length BC = 1, algebraic determination of the length AB requires solution of a quadratic equation and produces an endless decimal whose first few terms are 1.61803. A rectangle with sides 1 and 1.618 is known as the golden rectangle. Among its many interesting properties is the fact that if a square is cut off one end, the smaller rectangle that remains is the same shape as the original, that is its short side is still related to its long side as 1 is to 1.618. For most practical purposes, the golden section may be expressed as the ratio 5:8.

Great mysticism surrounded this proportion until recent times. Described as being like God because it is unique, and like the Trinity in that it is one proportion in three terms, the construction of the golden section has always been among the secrets of the Masonic Guilds. Gibbs, Hogarth, Burlington, Thornhill, Washington, Jefferson, Harrison and many other famous men of the 18th century were Freemasons, an order which still claims to have preserved through the ages the secrets of perfect and ideal proportions.

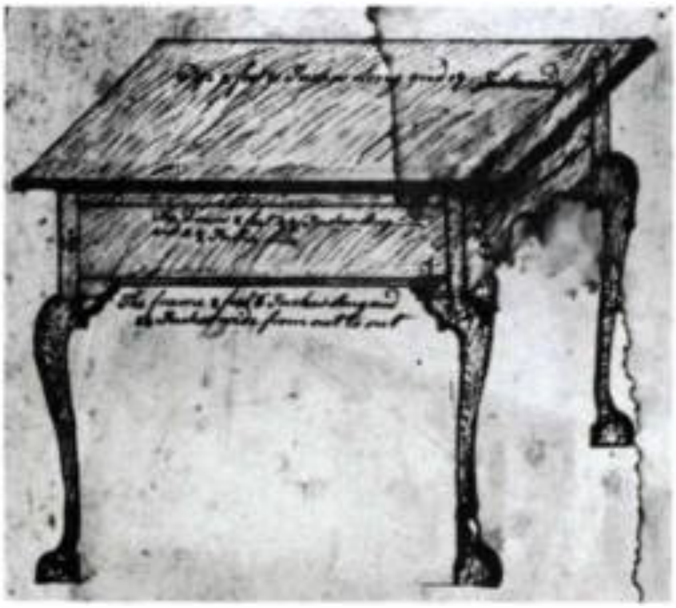
One of the few surviving records of an American cabinetmaker's predetermination of proportions is found on an unclear sketch by Samuel Mickle, who was apprenticed to Philadelphia cabinetmaker Shoemaker in 1765. On the sketch is the notation, "The Heighth of ye Book Case is 3:6 inclusive of ye top, ye width of ye Book Case is 3:5." It is difficult to know just where and how the cabinetmaker is applying these proportions from this cryptic bit of information. However, this sketch stands as a major document, for it conclusively proves the consideration of proportion in the design of a piece of furniture.

Examples of proportioning

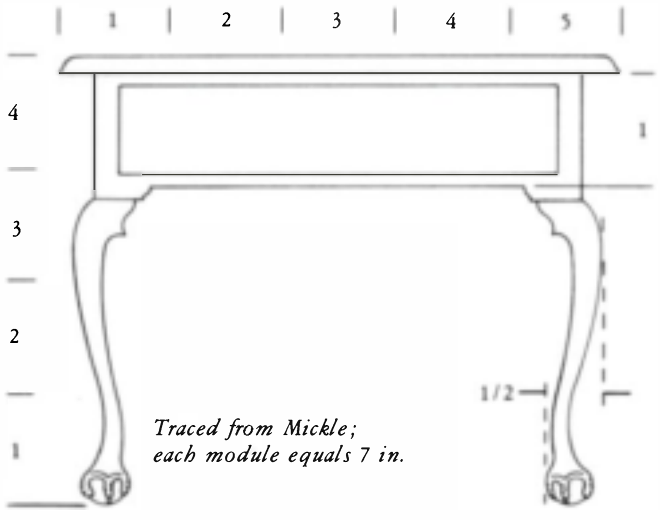
In the following study, two drawings from Mickle's sketchbooks and three 18th-century American highboys are examined for proportional relationships. In looking for such relationships, one should not expect to find absolute mathematical precision: A drawing is flat and a pencil line has no thickness, while wooden furniture exists in three dimensions and every piece of wood has thickness. Thus a proportional scheme worked out on paper, no matter how elegant, can't be exactly translated to solid wood. In sketching a piece of furniture, the cabinetmaker would first set up a proportional framework, then detail the drawing within the grid. Once the cabinetmaker has chosen his proportions, nothing compels him to follow them rigidly. Variations would be made for esthetic reasons, and to solve mechanical problems.

Confusion also occurs because immigrant cabinetmakers trained in different national traditions would have used different reference points to set out their proportions, and the style of furniture made in 18th-century Philadelphia would not be exactly the same as that made far away in Newport, R. I. It is nonetheless remarkable that so many definite relationships that reduce to small, whole-number ratios can be found within each piece, and can be found in common among several fine antiques.

I believe the examples on this page and the following two pages demonstrate that 18th-century artisans were well aware of proportions, and provide sufficient evidence for serious



Chippendale dressing table, from Mickle sketchbook, 1765. Handwritten notes are transcribed in the text below.



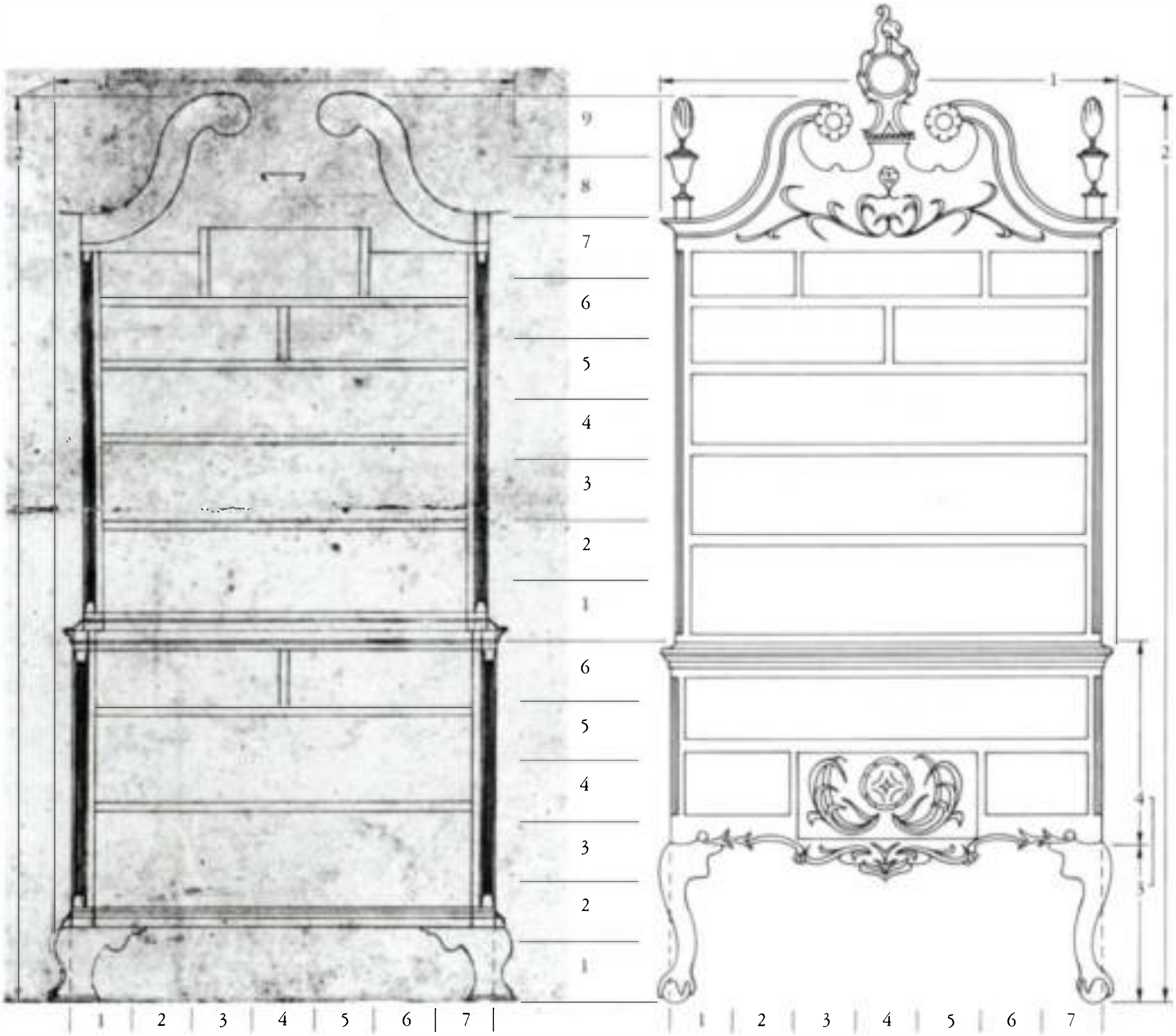
Traced from Mickle; each module equals 7 in.

contemporary study. I cannot describe my own excitement, after studying an antique for several hours and measuring from many points, upon suddenly seeing a relationship.

The photograph above, of a page in Mickle's sketchbook (Philadelphia Museum of Art, gift of Walter M. Jeffords), shows a Chippendale dressing table. The front elevation has been traced from the original to display the proportions. Mickle's notes say, "Top 2 feet 11 inches long and 17-1/2 inches wide; the draw 2 feet 3-1/2 inches long and 5-1/2 inches wide; the frame 2 feet 6 inches long and 24 inches wide from out to out."

The drawer width, 5-1/2 in. added to the 3/4-in. thickness of the rails above and below it, produces a module of 7 in. The principal dimensions of the table may be expressed in terms of this module.

The top is 35 in. by 17-1/2 in., or 5 modules by 2-1/2 modules, a 2:1 ratio. The table is 28 in. high (4 modules); its height to its width is as 4 is to 5. The legs are 3-1/2 in. wide, half a module, and thus the height of the table is to the width of the leg as 8 is to 1, exactly the same as the classical Corinthian column pictured on the opposite page.

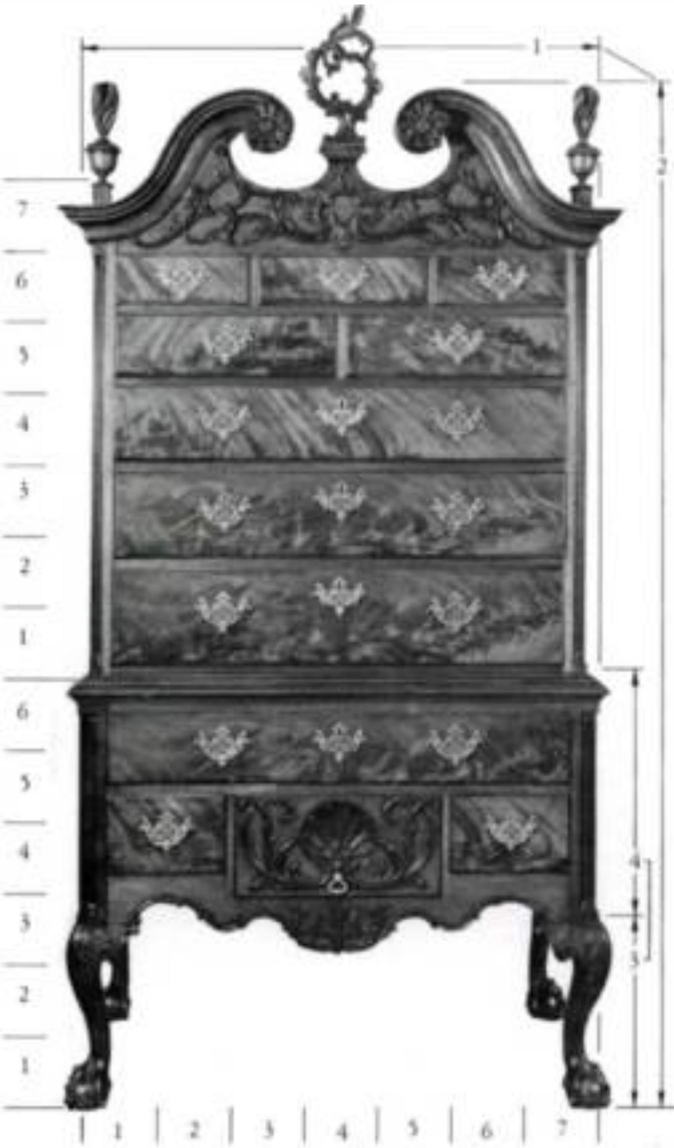


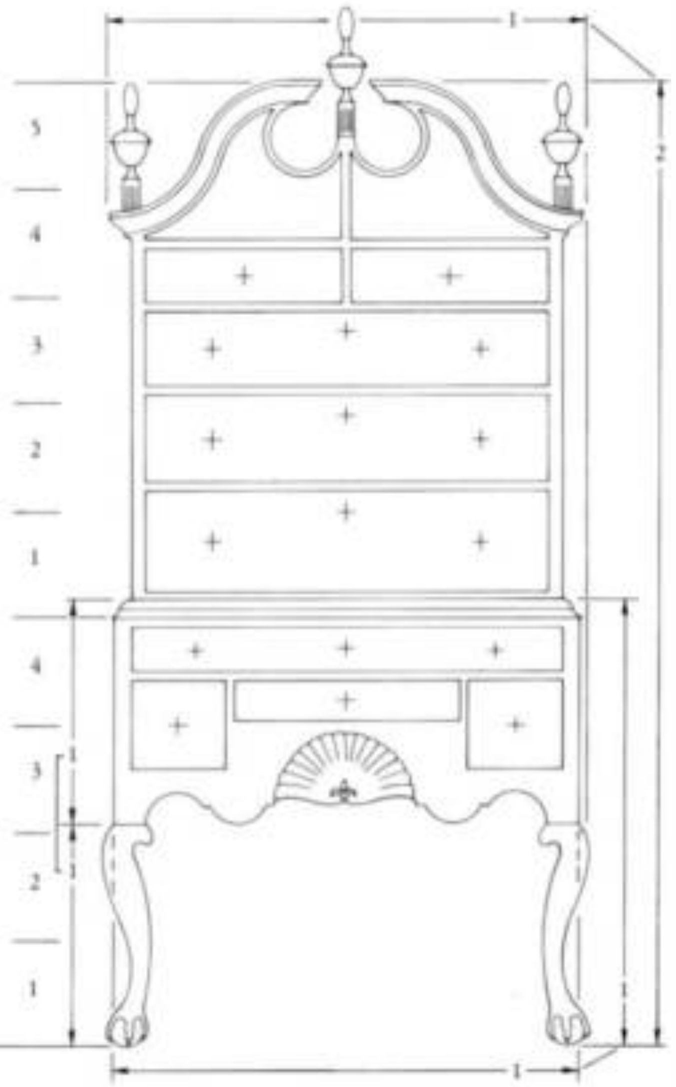
The exactly proportioned front view of a handsome chest-on-chest above is also taken from Mickle's sketchbook (Philadelphia Museum of Art). The original was drawn at 3/32 in. to the inch. The overall height of the chest (from the floor to the top of the pediment) is 90 in.; the overall width (measured at the knees) is 45 in.—a 2:1 ratio. Within this rectangle are two boxes, defined by the mid-molding. The lower chest is 36 in. high, 42 in. wide (from the sides) and 21 in. deep (from an auxiliary view). The upper chest is 42 in. high from molding to cornice, 54 in. high to the top of the pediment, and 40 in. wide. Thus the lower chest is twice as wide as it is deep, and its height is related to its width as 6 is to 7. The upper chest is exactly as high as the lower chest is wide, which is to say the height of the upper is to the height of the lower as 7 is to 6. The height of the upper chest, including pediment, is related to the height of the lower chest to the mid-molding as 9 is to 6, or 3:2. The width of the chest has been divided into seven equal parts (a module of 6 in.) and the height has been stepped off in the same increments.

This drawing, because of its authenticity and lack of confusing detail, is an excellent subject for speculative exploration with a pair of dividers and a scale. For example, the height of the legs is just half the height of the curved braces that form the pediment, and very close to twice the height of the cluster of moldings and rails that divides the chest. The height of the feet plus the bottom moldings is the same as the height of the bottom drawer front. And each drawer front, plus the rail on which it sits, is just as high as the drawer front below it, without rail, except at the mid-molding itself.

The front-view drawing above is a photo tracing of the majestic Philadelphia highboy pictured on the magazine's front cover (Yale University Art Gallery, Mabel Brady Garvan collection). It is the original of the well-known Kittinger reproduction and has been appraised at $100,000. Its dimensions and basic proportions are virtually identical to those found in the Mickle drawing: overall 90 in. high and 45 in. wide, a 2:1 ratio. The lower chest is 43 in. wide, 21-1/2 in. deep (2:1) and 36 in. high (width-to-height is almost 7:6); the upper chest is 42 in. high to the cornice and 42 in. wide (1:1), and the upper chest is exactly as high as the lower is wide. The upper chest from mid-molding to the top of the pediment is 54 in., as in the Mickle drawing, a 3:2 ratio to the height of the lower chest. Each increment along the bottom and left side represents a 6-in. module.

Furthermore, the legs are 15-1/2 in. high and the lower case is 20-1/2 in. high, a ratio of 3:4. The small lower side drawers are each one-quarter of the total width between the corner posts, and the central carved drawer is just as wide as the engaged fluted quarter-columns are high. The drawers in the upper case progress as before: Each drawer front, plus the rail on which it sits, is as high as the drawer below it.





The photograph above is of yet another revolutionary-era Philadelphia highboy (Museum of Fine Arts, Boston). At first glance this antique chest appears identical to the previous one, but close examination reveals that not only does it differ in details of ornamentation, but also it is a full 4-1/2 in. shorter. Yet if the overall measurements are taken at the sides of the base rather than at the mid-molding, the proportional scheme is virtually identical. For while the chest is only 85-1/2 in. high, the base is 43 in. wide (2:1) and 21-1/2 in. deep (also 2:1). The height of the base is 36 in., as before a ratio of almost 6:7 to its width, and the height of the leg is related to the height of the lower case as 3 is to 4. The upper chest is 41 in. high to the cornice and 41-1/2 in. wide, a virtual square; its height measures 49-1/2 in. from the mid-molding to the top of the pediment, very close to a 4:3 ratio to the height of the lower chest. If the width of the lower chest is swung up vertically from the mid-molding, it lands at the base of the finials and at the bottom of the pediment cutouts, while before it landed at the cornice itself.

The central carved drawer is 16-3/4 in. wide and the fluted quarter-columns are 16-3/4 in. high. And once again the drawer fronts seem to progress: Each front, plus the rail on which it sits, is as high as the drawer front below it.

Finally, the photograph of a 1760 Newport highboy at right (Museum of Fine Arts, Boston) has been converted to a photo tracing, above. While this chest is quite different from the Philadelphia examples, and at 81 in. high is smaller, proportional relationships can still be found. Its overall width at the knees is 40-3/4 in., the usual 1:2 ratio to overall height. But here the similarities end. On one hand, the mid-molding can be considered part of the base, as in the Philadelphia chests, giving a base height of 37-1/2 in. The lower case is 39 in. wide, a height-to-width ratio very close to square, and the leg height, 18-1/2 in., is about half the base height. On the other hand, the mid-molding is actually fastened to the upper case and therefore may be considered a part of it. This assumption makes the base the usual 36 in. high, and the upper case 45 in. high, a 4:5 ratio.

Furthermore, notice that the pediment is three times as wide as it is high, the lower drawers are as wide as the upper case, the small square drawers are a fifth as wide as the case, and the upper drawers follow the familiar progression.