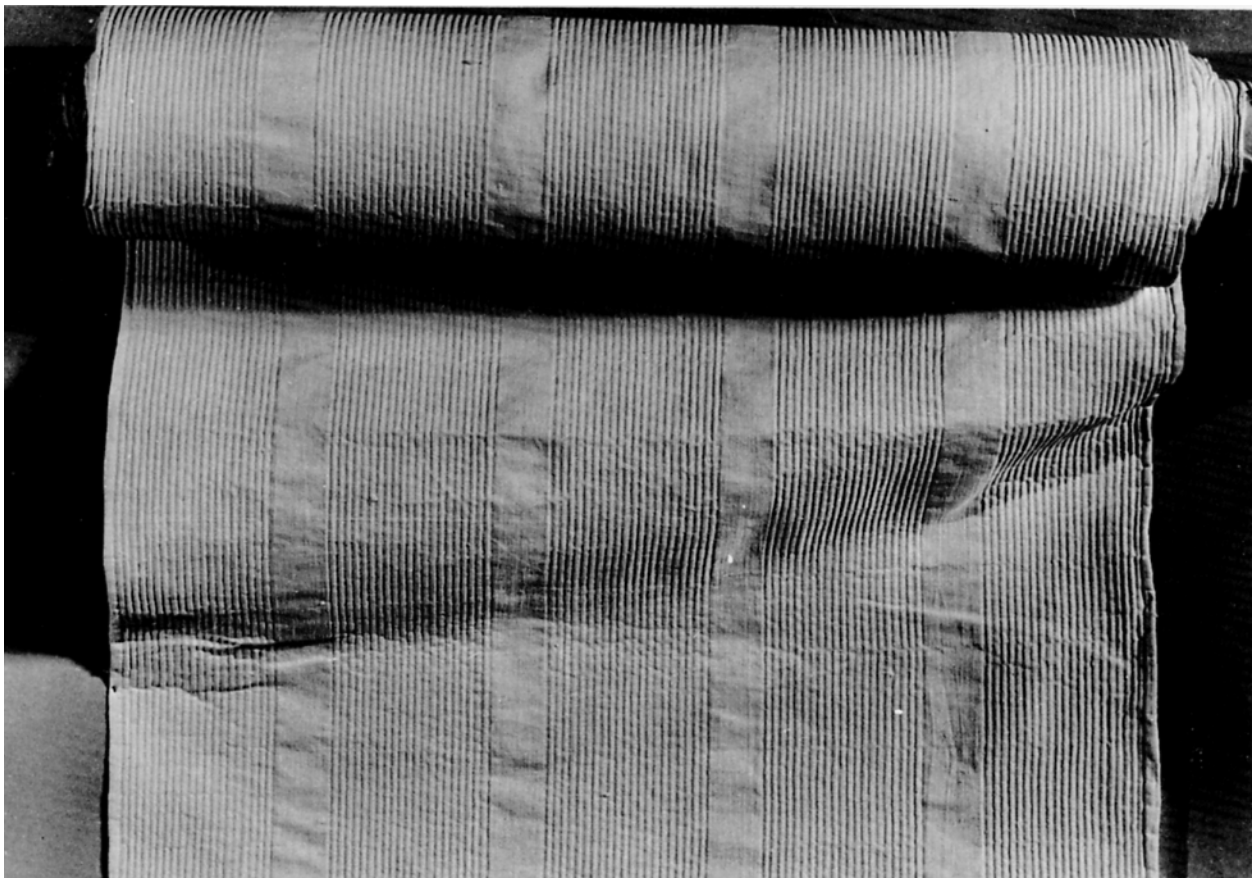

FIGURE 57.—Dimity yardage, probably of English manufacture. (Smithsonian photo 61043.)

Fifty-two years after this was printed, in 1798, merchant Daniel Copp advertised that he had "just received a fresh and general supply of European and India GOODS" (Figure 56). Both before and after the American Revolution imported fabrics including cottons were in common use in this country. Certain classes of goods, such as fine worsteds, silk fabrics, and almost all cottons, can be identified as imported wares, as little or no manufacture of these textiles was being carried on here in the eighteenth century. Items such as "yard wide Linnens, bed Ticks," "Stockings," "Linen and Cotton Checks," although imported, could have been produced in eighteenth-century America; therefore, it is exceedingly difficult to know which articles of this description were, in fact, of domestic and which of foreign manufacture. In the next chapter, more details will be given concerning the textile manufacture that was being carried on in America—in the home, in the mill, and by professional craftsmen—to offer some limited guide lines to the kinds of textiles that were produced.

In addition to the wool fabric in the bed hangings, the glazed wool fabric in the quilted counterpane, the many chintzes, calicoes, and muslins in the quilts, there are three additional household fabrics of foreign manufacture in the Copp collection.

Dimity, yardage (Figure 57), 25 inches by 7 yards 6 inches, cotton, single-ply Z-twist warp, single-ply S-twist weft; thread count 74 by 85. Probably of English manufacture, family history records it as "bought in New York in 1800." Although the manufacture of dimities originated in the East, they were manufactured in France as early as the late sixteenth century.[34] After the invention of the spinning machinery in England in the second half of the eighteenth century, many of the types of cotton

[34] Hazel E. Cummin, "What Was Dimity in 1790?" *The Magazine Antiques*, volume 38, no. 1 (July), pp. 23–24.

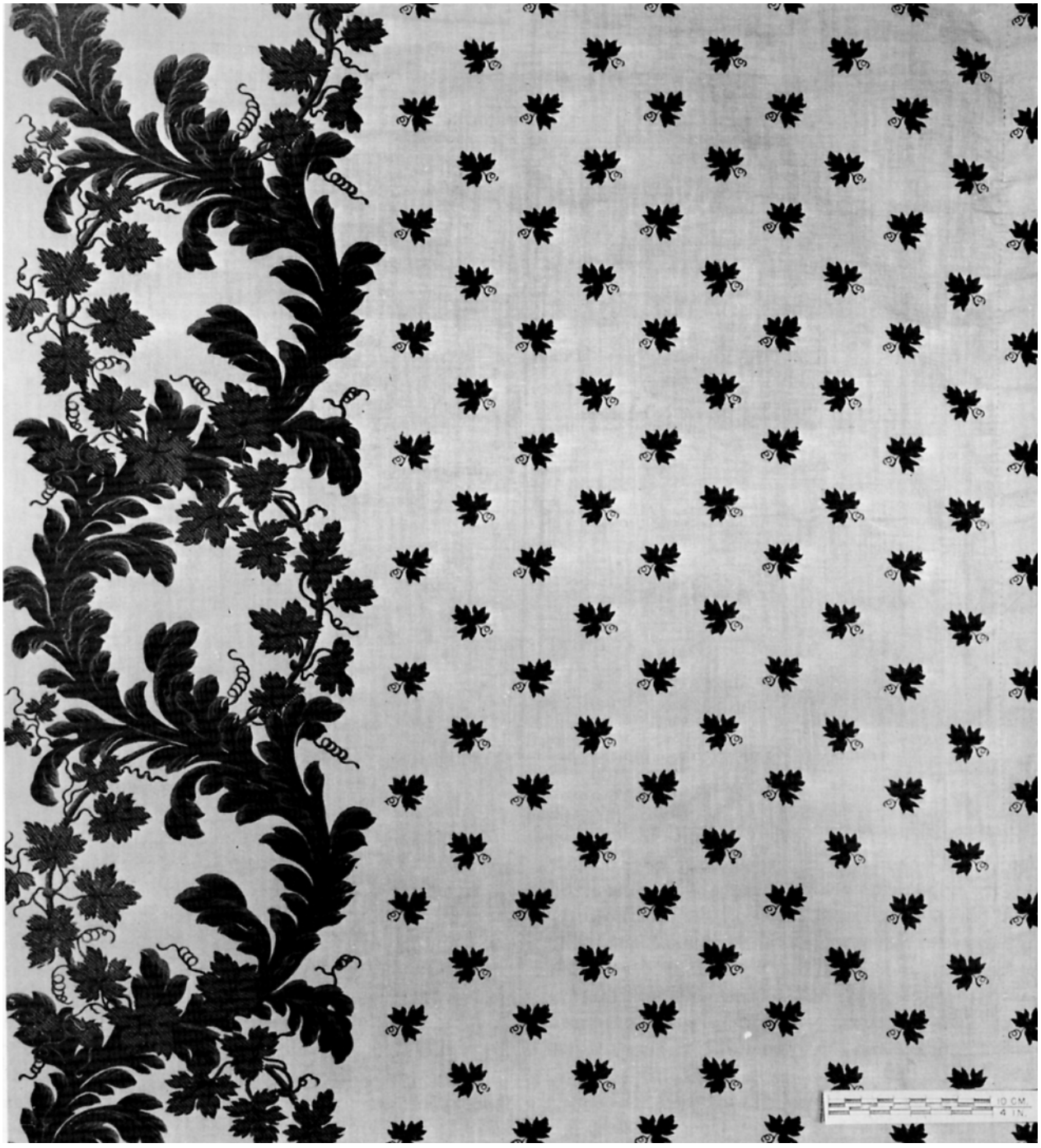

FIGURE 58.—Border-printed cotton. (Smithsonian photo 61037–A.)

goods originally produced in India could successfully be imitated by power spun cotton yarns, including dimities, calicoes, muslins, and so forth. This yardage might have been put to use by the Copps in making bed or window curtains or even for articles of clothing. *Cleaned T.67.102. H.6654*

Printed Cotton (Figure 58), in a pair of simple curtains, probably remade from original style. Fabric

FIGURE 59.—Roller-printed cotton. (Smithsonian photo 61036–C.)

width 26 inches; block printed, probably English, first decade nineteenth century; mustardy gold ground with dark red and brown in a border print, repeat of border design, 9¼ inches width by 9 3/16 inches vertical; small leaf pattern as the "filling." [35]

[35] During the late eighteenth and early nineteenth century, many woodblock chintz designs were arranged not as an overall repeated pattern, but in vertical stripes about nine inches wide. This provided a flexibility unobtainable in the copperplate prints. The fabric could use the design as a single (border), double, or triple stripe. In each the blank areas could be printed with an overall small repeated design called a filling.

Cleaned T.67.99. H.6651

Printed Cotton (Figure 59), made into a small curtain, probably the original use. Fabric width 24½ inches; roller printed, probably English about 1830; brown on white; design of flowers and leaves in various "net" patterns; pattern repeat 11 inches. Size of curtain, 18½ by 47 inches, one full width of fabric and one width cut up the center and stitched to each side; seams and hem in three-ply cotton thread; narrow drawstring hem at the top of curtain. *Cleaned T.67.112. H.6719*

Textile Manufacture in America in the Eighteenth Century

DURING THE EARLIEST YEARS of the American Colonies, England provided the settlers with almost all their fabric needs, encouraging them to restrict their work to the production of raw materials. By 1640, however, communication with the mother country almost ceased and the colonists found it necessary to supply most of their own wants, including the production of fabrics. One of the first mills, built in 1643 at Rowley, Massachusetts, was a fulling mill where wool cloth was washed, shrunk, and finished. In the mill, large wooden hammers supplanted the operation earlier performed by the feet in tramping the wool fabric placed in water-filled troughs (Figure 60).

As the need for more fabric increased, the local governments began to encourage and even order the manufacture of cloth, which was carried on primarily in the home with the finishing of the wool cloth in the fulling mill, just as the farmer depended on the miller to grind his grain. The records of the Massachusetts Bay Colony in 1645 report:

> Forasmuch as wollen cloth is so usefull a comodity, without which wee cannot so comfortably subsist in these pts by reason of could winters, it being also at present very scarce & deare among us, & is likely shortly so to be in all those pts from whence wee can expect it, by reason of the warrs in Europe destroying, in a great measure, the flocks of sheepe amongst them, & also the trade & meanes it selfs of making woollen cloaths & stuffs, . . . knowing how usefull & necessary wollen cloths & stufs would be for our more comfortable clothing, & how profitable a marchandize it is like to be to transport to other parts, [the Court of the Massachusetts Bay Colony] doth hereby desire all the townes in generall, & every one in particuler within the jurisdiction, seriously to weigh the promises & accordingly that you will carefully indeavor the preservation & increase of such sheape as they have already, as also to procure more, with all convenient speede, into their several townes, by all such lawfull wayes & meanes as God shall put into their hands.[36]

[36] "*The Record of the Colony of The Massachusetts Bay in New England*," entry 14 May 1645, in volume 2 of the published records.

A later development was the professional weaver (Figure 61), who together with other specialized craftsmen, became a part of the American scene. A Stonington, Connecticut, weaver, Manasseh Minor (also spelled Miner), left a diary that verified his professional activities in the late seventeenth and early eighteenth century. In addition to weaving for the people in the area, he also permitted them to use his loom and taught weaving. Although yarn was frequently furnished by the customer, Minor's entries report that he also produced yarn as a part of the farmer-weaver's yearly cycle. The wool-

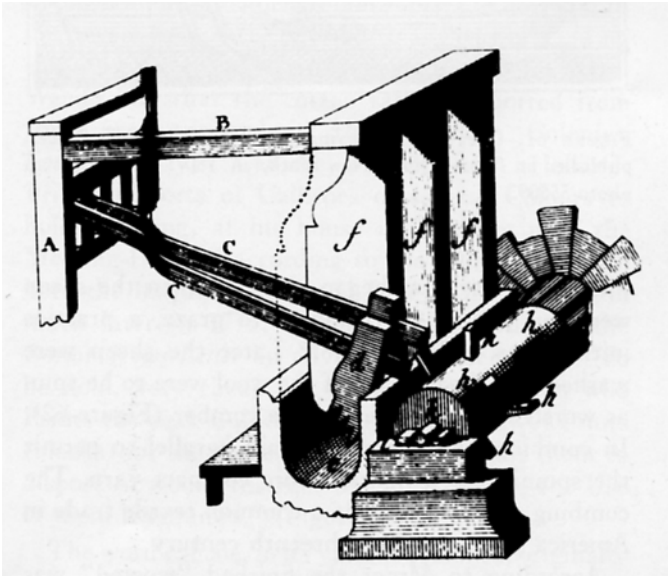

FIGURE 60.—Cutaway view of a fulling mill, as illustrated in a French encyclopedia published in 1786. This eighteenth-century European fulling mill would not be technically different from an American one of the seventeenth century. The use of water power to drive the large wooden hammers, which dropped onto the fabric in the trough, did not change in general concept until the nineteenth century. (Smithsonian photo 74590.)

FIGURE 61.—Weaver. Engraving from *The Book of Trades*, published in White Hall, New York, in 1807. (Smithsonian photo 55509.)

FIGURE 62.—Wool Comber. Engraving from *The Book of Trades*, published in 1807. (Smithsonian photo 55506.)

producing activities began in May when the sheep were put out to the common to graze, a practice initiated as early as 1648.[37] Later the sheep were washed and sheared and if the wool were to be spun as worsted it was taken to the comber (Figure 62). In combing, the fibers were laid parallel to permit the spinning of a tighter, more compact yarn. The combing skill had become a common textile trade in America by the early eighteenth century.

According to Minor the finished "wusted" was woven in October or November—after the harvest had been gathered. If a *woolen* yarn was to be spun, which called for a softer, less compact yarn than the worsted, the wool fibers were carded. To produce this spongier yarn, the shorter fibers were used and spun perpendicular to the direction in which they were carded. Carding, unlike combing, was done in the home until quite late in the eighteenth century when mechanical carding was introduced; but card-making was an important trade (Figure 63) and well established by the mid-eighteenth century.[38] The wool combs used by the comber were made by the ironmonger. If the several operations relating to the preparation of wool were performed in one establishment, it was called a clothier shop or mill. A

[37] ". . . for as much as all places are not fit (or) convenient for that end, it is therefore ordered that (hence) forth it shall be lawful for any man to keepe sheape in (any) common." Ibid., entry 18 October 1648.

[38] Rogers, *Scholfield Wool-Carding Machines*, p. 8.

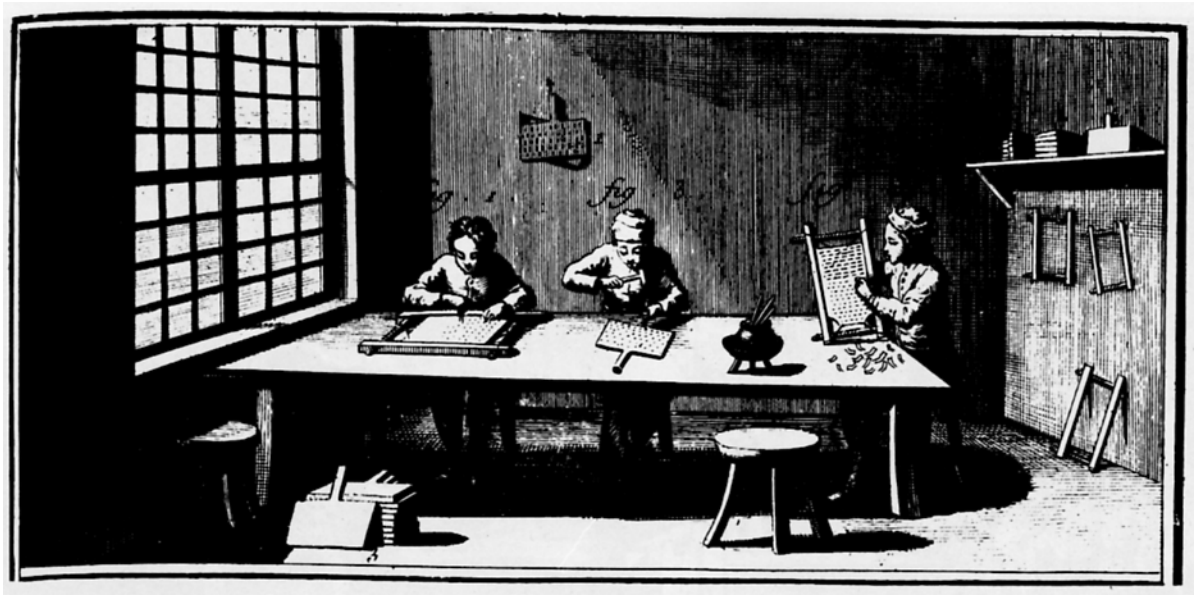

FIGURE 63.—Card Making. Cards used to prepare short fibers, such as cotton or wool, were made by embedding wire teeth into pieces of leather which, in turn, were mounted onto paddlelike pieces of wood. American card makers used a technique similar to that shown in this French engraving. From the *Diderot Encyclopaedia*, 1763. (Smithsonian photo 43995-B.)

Boston clothier, Samuel Foster, was the master of a worsted comber in 1737.[39]

The production of linen fabrics also was a cooperative venture. From the contemporary records we find that it was not uncommon for the family to grow their own flax; have it retted, swingled and hackled by the Flax Dresser (Figure 64); returned to them for spinning and reeling; woven at home or sent to a professional weaver; and then sent to the bleach fields and/or the dyer.[40] To the question of whether such a textile is a home or a professional (or commercial) product, one must answer that it is both.

Although used in more limited quantities, we know some cotton was processed, as we find a card maker advertising both "Wool and Cotton Cards" in Boston in 1746.[41] But, until after the introduction of the cotton spinning machines, cotton yarn was used only for the weft. Warp yarns, which had to be kept under tension in the loom, were of the stronger handspun linen; union fabrics of cotton and linen were frequently referred to as "cotton" adding confusion when such contemporary entries are found. We do find that the cotton fabrics imported from India were printed in the American Colonies. Francis Gray, "Callicoe Printer from Holland; Prints all sorts of Callicoes of several Colours to hold Washing, at his house in Loxbury near the Meeting-House," according to the *Boston Gazette*, in both the 16 June and the 23 June 1735 issues. And much later in 1773, in the 13 May issue of the *Boston News-Letter* an advertisement reported, "To be Sold, very cheap for Cash, by the Person who Prints the dark Callicoes, an excellent Sett of Prints (blocks) for the Same. The Person who has them to dispose of would Instruct the Purchaser in the Use of them if required." (Figure 65).

The word calicoe, in its various spellings, originally referred to the particular type and weight of plain woven all-cotton cloth from India. By the 1770s, calicoe—handwoven of machine-spun cotton—was being produced and exported by the British. Painted (and printed) calicoe from India was termed "chint." But the entry "white Calico" in a 1749 advertisement would give us reason to believe that the term

[39] "Worsted Comber by Trade, run-away from his master Mr. Samuel Foster, of Boston, Clothier," *Boston News-Letter*, 28 April and 5 May 1737.

[40] Dow, *The Arts and Crafts in New England, 1704–1776*, p. 189, and Gottesman, *The Arts and Crafts in New York, 1726–1776*, pp. 250, 251.

[41] Dow, *The Arts and Crafts in New England, 1704–1776*, p. 258.

FIGURE 64.—Growing and Processing Flax. This French engraving shows the rippling (removing the flax seedpods), the breaking (of the outer stalk to free the fiber), and the swingling (beating the fibers to remove the chaff). The implements and techniques used in the American colonies were quite similar to those shown. From the *Diderot Encyclopaedia*, 1762. (Smithsonian photo 43993–C.)

calicoe was at times used to mean a printed fabric as well as being used to mean the unprinted fabric.[42] It was not uncommon for the American calicoe printers to print linens also and for the Linen Printers to include calicoes.

Many attempts were made to produce raw silk but this never developed into a profitable commodity; the skilled labor required to reel the silk was too expensive. There were attempts to raise the silkworms and ship the cocoons to England for reeling, and also to reel the cocoons here and use the silk for stockings, thread gloves, lace and so forth. These are the products covered in contemporary references to "Silk Manufacture." One of the more common trades was concerned with silks already in use. This was the Scourer who "cleaned ladies and gentlemen's clothes, taking out spots and stains, lace and silk stockings." Sometimes they were listed as "Silk Dyer and Scourer" [43] and their work does not sound very different from the "Cleaners and Dyers" of today.

Because of the textile manufacturing that was being carried on in the colonies, the British merchants and manufacturers began to complain in 1731 about the colonists' effort to substitute articles and fabrics of their own manufacture for English goods on the grounds that it was injuring the commerce and industries of the mother country. The Governor of the Massachusetts Bay Colony answered that it was true that in some parts the people worked their wool and flax into an ordinary coarse cloth for their own use, but that the bulk of their woolen and linen clothing was imported from Great Britain and sometimes Ireland. Even while bounties were being offered for every piece of duck or canvas made in the prov-

[42] Ibid., p. 161.

[43] Gottesman, *The Arts and Crafts in New York, 1726–1776.* p. 284.

FIGURE 65.—Calico Printer. From *The Book of Trades*, published in 1807. (Smithsonian photo 55511.)

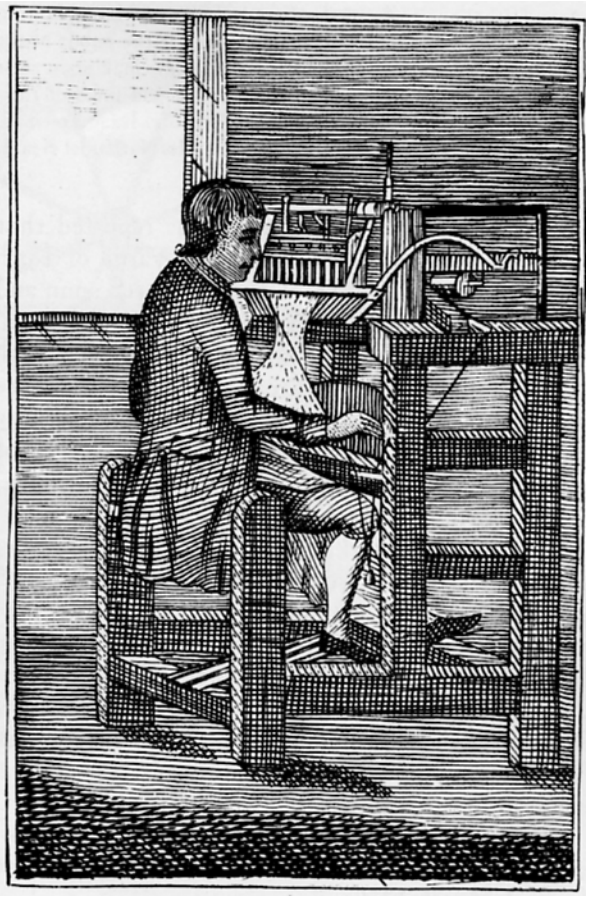

FIGURE 66.—Stocking Maker. *From the Book of Trades.* (Smithsonian photo 55514.)

ince, the Governor wrote that the country people who used to make most of their clothing out of their own wool no longer made even as little as one-third of what they wore and they were mostly clothed with British manufacture. At this point, the modern reader begins to suspect that the Governor was trying to placate his superior in London.

By the middle of the century a new movement was inaugurated for the promotion of manufacture both for the employment of the poor and to relieve the constant drain of money for the excess of imports over exports. In the *Massachusetts Gazette*, 19 November 1767, we find:

Young ladies in town and those that live round,
Let a friend, at this season, advise you,
Since money's so scarce, and times growing worse,
Strange things may soon hap and surprise you.
First, then, throw aside your top-knots of pride,
Wear none but your own country linen.
Of economy boast, let your pride be the most
To show cloaths of your own make and spinning.
What if homespun, they say, is not quite so gay
As brocades, yet be not in passion;
For when it is known this is much wore in town,
One and all will cry out, "Tis the fashion,"
And, as one and all, agree that you'll not married be
To such as will wear London Factory;
But, at first sight, refuse; tell 'em such you do chuse
As encourage our own manufactory.

The first news article in the *Massachusetts Gazette* of 7 January 1768, and printed in oversize type, read:

The Senior class of scholars at the University in Cambridge have unanimously agreed to take their degrees next commencement dressed altogether in the manufacture of this country.

Such encouragement was spreading.

> As a farther specimen of the Practicability of Manufacturing our own Cloaths in this country, we can assure the public of the following persons in Woodbridge in New Jersey, making in their Families, within the year past, both woollen and linen of their own raising, the Quantities of following Viz. Mr. Isaac Freeman, 599 yards, Mr. James Smith, 567 yards and Mr. Nathaniel Heard, 414 yards.[44]

In Newport, Rhode Island, it was reported that "within Eighteen months past 487 yards of cloth and thirty-six Pairs of Stockings have been spun and knit in the family of Mr. James Nixon of this town. . . . These instances of Industry were mentioned with a view to demonstrate how easily it will be for those colonies, in a short time, to be independent of any other country for cloathing; and at the same time to excite others to imitate Examples so highly beneficial to themselves and the Community." [45]

By 1770 a Newark, New Jersey, manufacturer proposed a scheme to surpass the "Family Weaving" establishment and employ a number of hands to spin, weave, dye, and full about "6000 Yards of different Sorts, such as Camblets, Callimancoes, Cambletees, plain, striped, and figured Stuffs, Druggets, Sagathies, German Serges, Everlastings, Plushes, etc." Whether this all-inclusive mill was successful at this time we have no record.[46]

Spinning matches were encouraged and news items appeared, like this one in the *Boston News Letter*, 1 March 1770:

> Patriot ladies met at the house of John Gore [he had encouraged spinning]. . . . The laudable practice of spinning is almost universally in vogue among the female children of the town, whereby they are not only useful to the community, but the poorer sort are able in some measure to assist their parents in getting a livelihood. The use of the spinning wheel is now encouraged, and the pernicious practice of tea drinking discountenanced by all the ladies of the town . . . excepting those whose husbands are Tories.

But at the same time many importers were still bringing from Great Britain "The Best Wilton Carpeting, . . . stained [printed] bed quilts, . . . cotton counterpanes." [47] This commerce continued into the war years as shown by the fact that "a few pieces of the most elegant chintz, both for firmness and richness of pattern, that has been imported into this country" were advertised in the *Pennsylvania Journal*, 23 February 1782.[48]

The American Revolution did not seem to decrease the amount of goods coming from England. Lord Sheffield wrote that in the year 1778, when the revolt was at its height, over three million yards of broad woolens and over two million yards of narrow woolens were exported to the colonies. And by the year 1782, each category had increased by almost a million yards.[49] It is quite evident that the Americans did not provide all their own textile needs even when their feeling of independence was running at its peak.

In England, during the middle years of the eighteenth century, several important textile inventions occurred which were to have an important effect on the production of fabrics in the newly created United States of America. One was the idea for a hand-powered multiple spinning machine, reportedly realized by James Hargreaves as he observed the actions of a wool spinning wheel that had been accidently overturned by his daughter. As the simple, straight-shaft spindle continued to turn while in an upright position, Hargreaves reasoned that in such a position many spindles could easily be turned by a like number of driving belts from a single power source. About 1764 he perfected his first machine, a spinning jenny, that was patented in England in 1770. The Hargreaves jenny was intended for spinning wool or cotton and the principle of drawing, twisting, and winding was exactly the same as that in the common wheel. The spinning jenny was introduced into the American colonies quite early, in the improved form with the changes Hargreaves made after it was patented. An illustration and description of "a new invented machine for Spinning Wool or Cotton . . . By Christopher Tully, who first made and introduced this Machine in this Country" appeared in the *Pennsylvania Magazine* in 1775 (Figure 67).[50]

About the same time, Richard Arkwright of England patented a spinning machine employing a new concept in drawing out the fibers. The prepared roving, lengths of carded fiber, passed through two

[44] Ibid., p. 259, *The New York Gazette or the Weekly Post Boy*, 18 January 1768.
[45] Ibid., p. 260.
[46] Ibid., p. 262.
[47] Prime, *The Arts and Crafts in Philadelphia, Maryland, and South Carolina, 1721–1786*, p. 209.
[48] Ibid., p. 213–214.
[49] Sheffield, *Observations on the Commerce of the American States*, p. 12.
[50] *Pennsylvania Magazine*, 1775, p. 158 and the illustration opposite. In Library of Congress collection.

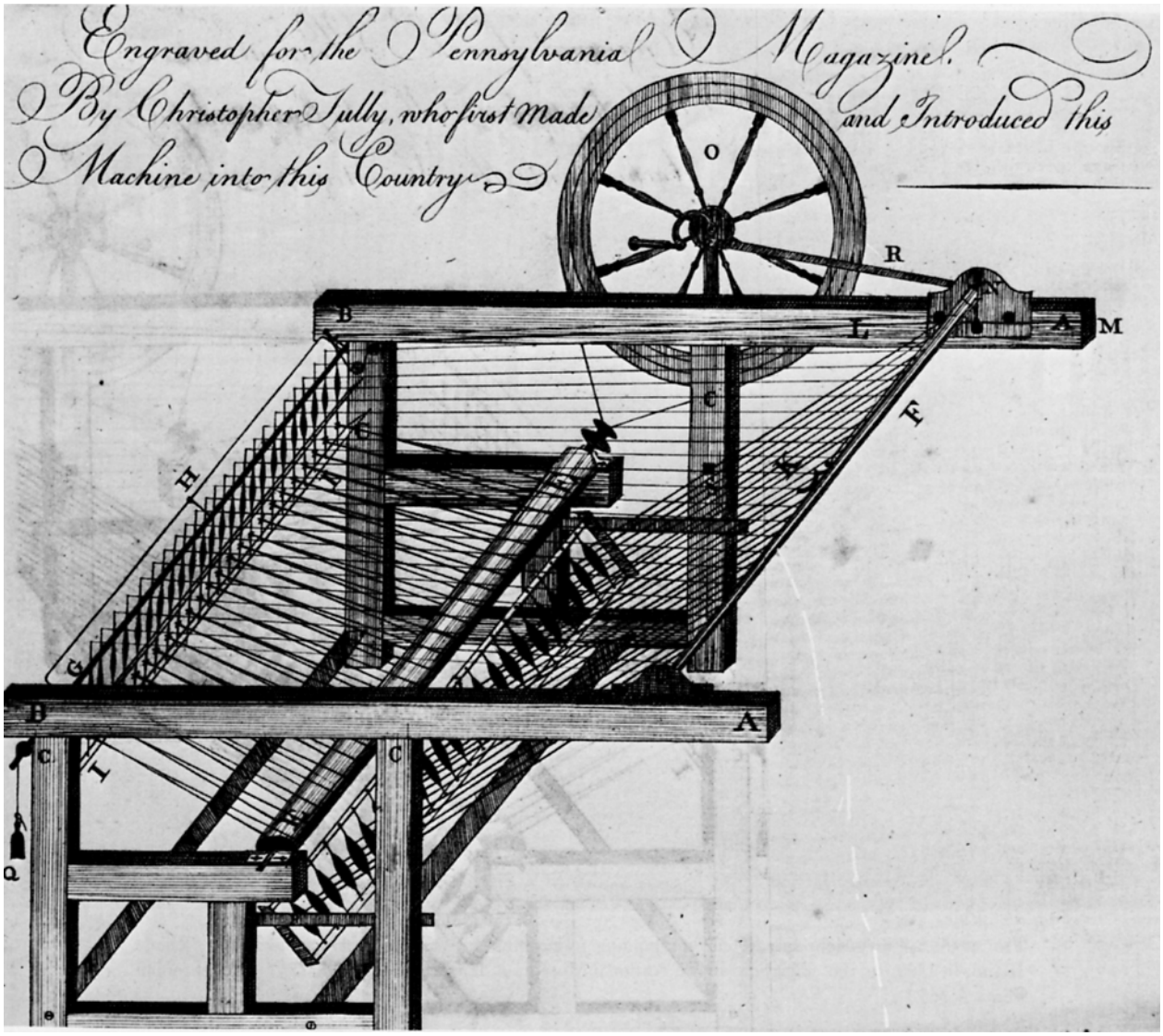

FIGURE 67.—The improved Hargreaves spinning jenny, for spinning wool or cotton, as introduced into the American colonies by Christopher Tully, in 1775. From the *Pennsylvania Magazine*, 1775. (Smithsonian photo 72549.)

or more sets of rollers of which each succeeding pair turned a little faster. The fibers were thus drawn out faster than they were fed in, decreasing the diameter of the roving. The twist was applied by the use of a U-shaped flyer with a free-running bobbin like that of the flax wheel. Arkwright's machines, run by water power, were quickly adopted for mill use. One of the large cotton yarn mills using the Arkwright machines was that of Jedediah Strutt in Milford, England.

A young man, Samuel Slater, was apprenticed to Mr. Strutt on 8 January 1783. By 1789, after six years of service he was well-qualified to supervise a mill. Less than a month after his training was complete Slater left England and arrived in New York in November 1789. Exactly why he decided to come to America rather than take one of the many opportunities in England is not known. Perhaps the overtures being made to attract men with technical skills to the new country held more promise. Perhaps his reason is expressed in the first sentence of a letter, which Slater received from an old schoolmaster

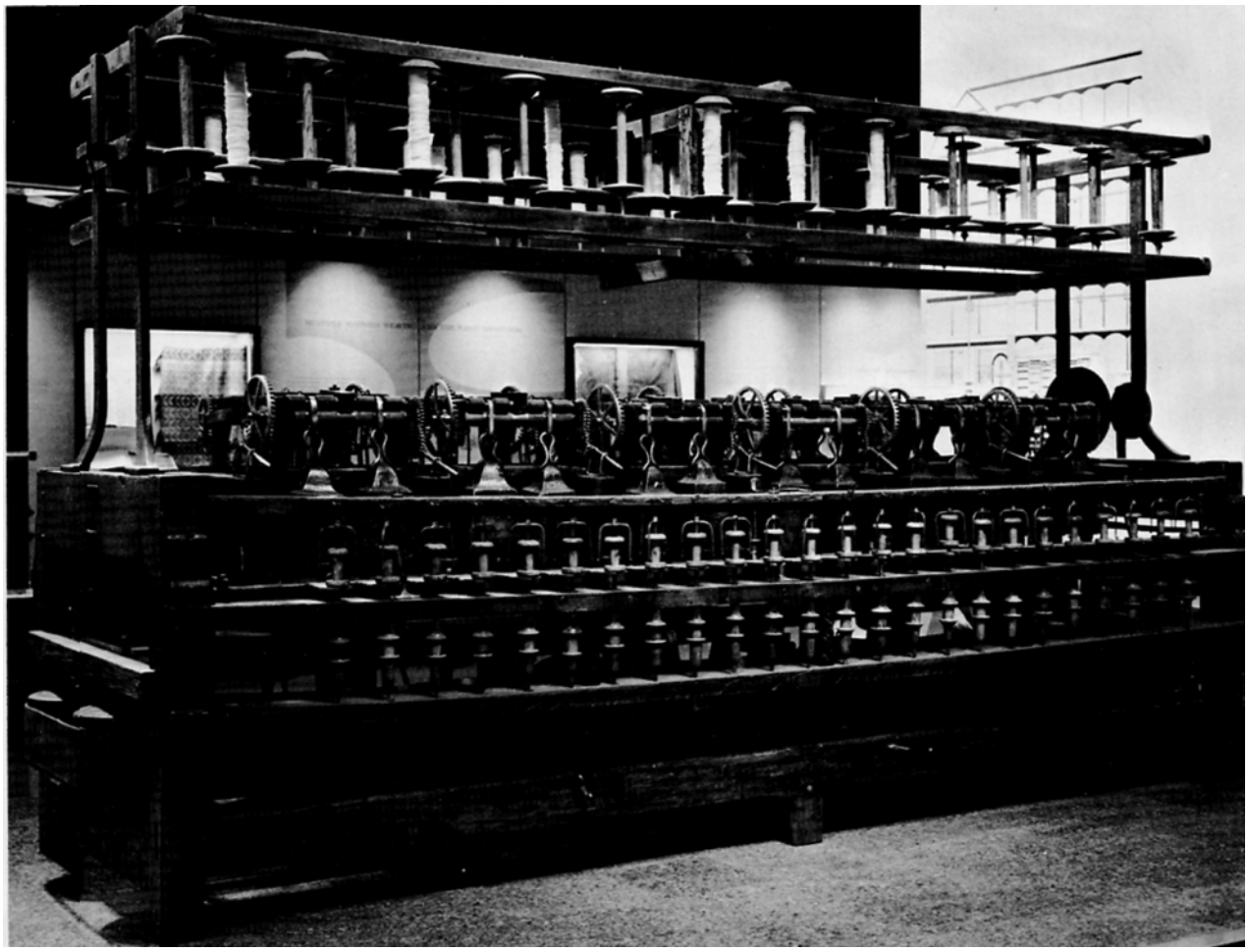

FIGURE 68.—Forty-eight-spindle cotton spinning frame built by Samuel Slater in Pawtucket, Rhode Island, in 1790. In the collection of the National Museum of History and Technology. (Smithsonian photo 45363.)

shortly after he arrived, "I am glad to have so favourable an account of your health when your letters left the western world, *the seat of patriotism and independence.*" [51]

After Samuel Slater was in New York a very short time he learned of the concentrated efforts of Moses Brown to start a cotton mill in Rhode Island. He wrote to Brown as follows:

New York, December 2d, 1789

Sir, A few days ago I was informed that you wanted a manager of cotton spinning, etc. in which business I flatter myself that I can give the greatest satisfaction, in making machinery, making good yarns, either for stockings or twist, as any that is made in England; as I have had opportunity, and an oversight, of Sir Richard Arkwright's works, and in Mr. Strutt's mill upwards of eight years. If you are not provided for, should be glad to serve you; though I am in the New York manufactory, and have been for three weeks since I arrived from England. But we have but one card, two machines, two spinning jennies, which I think are not worth using. My encouragement is pretty good, but should much rather have the care of the perpetual carding and spinning. My intention is to erect a perpetual card and spinning [meaning the Arkwright patents]. If you please to drop a line respecting the amount of encouragement you wish to give, by favour of Captain Brown, you will much oblige, sir, your most obedient humble servant,

SAMUEL SLATER

Brown answered within a week.[52] Thus began the

[51] White, *Memoir of Samuel Slater*, p. 40–41.

[52] Ibid., p. 72.

establishment of the first successful cotton mill in America, with Slater becoming the Father of the American cotton industry (Figure 68).

Although the fabrics were still produced in the establishments of professional weavers and not in the mill, cotton spun on the Arkwright system was strong and fine enough to be used as the warp, therefore, sheetings, shirtings, checks, and ginghams of all cotton, could, for the first time, be manufactured cheaper in this country than they could be imported.[53] But Slater's contribution was more than the cotton mills he established; many of the men trained in his mills went on to other mills and his knowledge spread.

This increased demand for raw cotton encouraged young inventors like Eli Whitney to turn their thoughts to the planters' problem of ginning—separating the fiber from the seed. After this problem had been solved in 1793, the production and manufacture of cotton increased tremendously. In 1794, "American Manufactures from the town of Patterson [New Jersey, listed] calicoes, Furniture calicoes, chints shawls, Purple shawls, striped jeans, muslinet vest shapes, striped cotton for men's wear and [a small supply of] water and mule twist [cotton yarns]," all of which were cotton goods.[54] The *New York Manufactory* in 1795 listed:

> American Manufactures, made at the New-York cotton and linen manufactory, and for sale by Andrew Stockholm . . . striped and plain nankeens . . . German stripes, thicksets, bridgetts, or rib deleurs sattinets, jeans, pillow fustians, dimities, cossoners, checks and bed ticken, stocking yarn of different qualities, and candle wick. Orders for cotton goods of any quality made to pattern, on the shortest notice.[55]

Although the many important advances related to power weaving did not come until the nineteenth century, it was the power production of cotton yarns that enabled the eighteenth-century American manufacturers to begin to compete in the textile marketplace of the world. The examples of bed ticking (Figure 30) in the Copp collection may well represent this important beginning.

[53] Ibid., p. 67.

[54] Gottesman, *The Arts and Crafts in New York, 1777–1799*, p. 289.

[55] Ibid., p. 290.

Appendix

METHODS USED TO CLEAN AND PREPARE THE TEXTILES

Cleaning Techniques

One hundred and eighteen of the Copp household textiles have been wet-cleaned in the Textile Laboratory. Most of these were of cellulose fibers—undyed cotton and/or linen—plain-woven textiles, including fringes, table covers, towels, pillow cases, sheets, and fabric yardage. A few of the textiles were dyed or printed. The same general procedure was followed for all undyed fabrics, with minor variations made as needed to suit individual needs.

After the technical identifications were made and the visible appearance recorded, specific recommendations were made for handling each item to be wet-cleaned. All loose dust and dirt was removed from each fabric before any wet-cleaning process. The article was laid flat on a table. Using a layer of fiber-glass screen as a protective shield, a low-suction hand vacuum cleaner was used to remove the dust. In preparation for the wetting process, weak fabrics were sandwiched between two layers of screen. All fringes were also sewn between screens so that the loose ends would not tangle during the cleaning operation. When an article was not between screens it was supported on a single layer of fiber-glass screen. Only one item was processed at a time.

Heavily soiled items, supported on a screen, were lowered into a preliminary soaking bath of room-temperature, distilled water. This initial soaking removed some soil and penetrated the fibers to loosen some stains. Distilled water was used exclusively throughout the process for soaking, bleaching, and rinsing. Containers of molded fiber-glass were found to be the most satisfactory.

Each article was cleaned by placing it in a non-ionic detergent and water solution which was heated to 95° F. When the water appeared dirty, the textile was removed and rinsed in distilled water. If a Ph test indicated it was still in an acid state, the detergent soaking and rinsing process was repeated. The fabric was not squeezed or agitated in solution. Some articles appeared clean and white after this detergent soaking process. These were rinsed thoroughly and dried. The textiles mounted between screens were rinsed many more times, because dirt and detergent became trapped between the screens. Every precaution must always be exercised to assure thorough rinsing.

After the washing process, if stains and discoloration were still present the article was further processed. A mild solution of 1% to 3% hydrogen peroxide in water with a sodium perborate additive (1 oz. to 1 gal.) was made and the article soaked for five minutes. Then it was lifted onto a screen, drained, and wrapped in clear plastic for one to four hours, depending on the degree of discoloration. The article was then unwrapped and rinsed thoroughly. In the first rinse a few drops of acetic acid was added to neutralize the distilled water.

Following the thorough rinsing process, in which the Ph of the water was repeatedly tested until it was neutral, the fabric was smoothed out on a one-half-inch thick sheet of plexiglas. The warps and wefts were lined up perpendicularly. Towels were used to absorb the excess moisture and then were removed to allow the article to dry thoroughly. Fringes were removed from the screens and air dried. After drying they were hand straightened to separate each yarn.[56]

Once dry, the fabrics were removed from the plexiglas surface and their appearance recorded. Flat articles were rolled on fabric-covered cylinders, which were placed on horizontal poles and supported

[56] A more detailed description of this wet-cleaning process is available upon request to the Division of Textiles, in Information Leaflet 478, *How to Wet-Clean Undyed Cotton and Linen* by Maureen Collins McHugh.

in special racks. Sheets were folded. Fringes were wrapped around fabric-covered cardboard supports, about 10 by 12 inches.

The printed curtains and the dyed fabric lengths, bed hangings and counterpane were cleaned with the same procedure as above with the following changes. First, dyes were tested for fastness in the detergent solution. Second, the procedure using hydrogen peroxide was omitted entirely. The indigo dye in the blue and white linen check showed evidence of some bleeding in the test, but after rinsing and drying it had not visibly affected the white yarns. Since this type of furnishing was meant to be washed and had been during its use, the cleaning process was used successfully.

Mounting Techniques for Exhibition of Large Textiles

The procedures used to prepare textile articles for exhibition vary with the condition, size, and the manner in which the textiles are to be exhibited. Large pieces offer a much greater problem than the smaller ones.

The eighteenth-century overshot coverlet (Figure 46) in the Copp collection is in very good condition and offers an example of one of the simpler methods of preparation for exhibition. A muslin tube is made from a thirteen-inch width of muslin, the length of which is equal to the width of the coverlet. One inch is folded under at each end for the hem. The band of muslin is folded in half lengthwise and stitched to form a tube; it is turned to the right side and pressed. The muslin tube is pinned and stitched to the top of the coverlet at both the upper and lower edge of the muslin using a half-inch basting stitch and sewing between the yarns of the coverlet to prevent splitting the yarns of the old textile with the basting thread. With this type of preparation either a rod can be inserted or hooks can be pinned into the muslin and used to attach the coverlet to a supporting wall.

If the textile is weak, a more substantial method of support must be used. The entire antique textile is backed or lined with a new fabric of a weight suitable to support it but not too heavy to detract from the original texture. This method allows the weight of the old fabric to be evenly supported throughout, rather than being supported by its own strength. One of the white embroidered Copp counterpanes (Figure 16) is prepared in this way. Widths of unbleached muslin are stitched together by machine to provide a backing the full width and length of the counterpane.

Allowances are made on the two sides and the bottom of the lining for the hems. A three-inch allowance is provided in the muslin backing at the top, which is turned under and machine-stitched to itself to form a substantial hem through which a supporting rod can be run, if desired. The other three sides are hemmed. Before the counterpane is lined, it is laid on a large table, smoothed flat, and the lining fabric pinned to the wrong side. It is pinned at the embroidered areas also. The three sides are pinned only to within eight inches of each edge. Most large textiles, such as quilts or counterpanes, are stretched and therefore distorted while they are being made. Pinning or stitching the lining to the edges gives a puckered or pulled look. With a half-inch basting stitch the lining is handstitched to the counterpane across the full width at the top. A second row of stitching is inserted at the base of the top hem in lining. Additional stitching at both the seams of the counterpane ground fabric and following the embroidered design helps the lining carry the weight of the counterpane. Number fifty mercerized cotton thread with a suitable needle has proved satisfactory for stitching both cottons and linens of substantial weight.

Extremely heavy or very fragile textiles of large dimensions can be given additional support by use of a frame or backing board. It should be constructed of plywood or any material that is manageable and will support the weight of the exhibited item and then is covered with a cotton flannel. The frame is installed in the exhibit case at a slight obtuse angle. This means a textile supported on this frame does not hang free but is supported by the nap of the cotton flannel together with the angle of the frame. Either lining strips or a full lining is stitched where needed and then stitched to the flannel covering of the frame. The quilted counterpane in Figure 1 and the pieced quilt in Figure 4 were mounted in this way for the special Copp Family Textile Exhibit.

These are a few suggested methods for mounting large textiles. However, each old textile to be exhibited is an individual problem and its specific characteristics must be taken into consideration when determining a safe method of mounting, especially for vertical exhibition.

In addition to mounting precautions, the following check list is used in the Department of Textiles at

the National Museum of History and Technology for textiles to be placed on exhibition.

1. Cataloged textiles must be exhibited behind glass, or plastic, as a protection from visitors' hands and the dust in the air. The glass or plastic must not touch the textile. In rare instances, such as the exhibition of a tapestry, permission may be given to exhibit it in the open, providing adequate provision is made for a railing and the tapestry is hung out of reach.

2. The textiles must be placed a minimum of eighteen inches from any artificial light source. The level of light should be kept as low as practicable. Filters must be provided on the light fixtures; incandescent light is less harmful than florescent. Natural sunlight should not be used to illuminate textile material.

3. Before the textile is placed on exhibition, the interior of the case should be cleaned, especially the wall or surface onto which the textile will be placed. If the area has been painted, it should be checked to be certain that the paint is dry and that there is no chance that it will crock (rub off). If there is any doubt, or if the surface is raw wood, polished metal, or any reactive surface or if there are sharp edges on rigid plastic, or rough finishes, then a plastic liner with a fabric liner must be used. The fabric liner should be placed between the plastic and the original textile. Stained wood that does not have a varnish or other protective coating should never be used.

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