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Weaving Independence from a Distant Cottage Industry

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Introduction

The fabric of flags is inextricably woven into our cultural heritage. Throughout civilization flags have heralded national identity in war and peace, as symbols of both victor and defender. Research into the origins of early 1800 flag fabrics wove a fascinating tie to England, where the wool fabric was made, and why it survived while the weaving industry was mechanized during the industrial revolution. Bunting fabric provided the canvas for the flag as a symbol of a nation and its people. This makes the history of bunting and its struggle for survival into the nineteenth century, an integral facet of our history.

In England the fabric trade was being driven by the new economics and scale of production brought about by the industrial revolution. Bunting was used almost exclusively for flags, and its survival through this period was aided by the very structure of the fabric itself. Heavier fabrics were woven by men, but the lightweight character and smaller dimensions of bunting meant it could be woven by women and children. This provided not only a welcome but a necessary contribution to the economic wellbeing of working class households. The manufacture of bunting was a cottage industry based in the region around the village of Sudbury in Suffolk, a manufacturing town dating back to medieval times. With changes in transportation and the availability of new routes, the proximity of Sudbury to London allowed local clothiers easier access to principal buyers of bunting, and consequently close access to import trade in bunting.

Textile Manufacture in Early Modern England

While the woolen industry had been prevalent in England for centuries, a colony of Flemish worsted weavers settled in Sudbury, Suffolk during the reign of Edward III (1312-1377). The Flemings also introduced the jersey tammy that was being made in Norwich in the 1570s. Jersey bunting was a variety of tammy suitable for flags as its wool yarns were opaque even in the strongest light. The first unequivocal record of worsted tammy manufacturing was in Norwich, Norfolk in 1605. There was a gradual spelling change from *estamet* to *tammy* to *tamett*, and by 1633 this became *tammett*. A stammet or tammy yarn was one that had been shrunk and smoothed by scouring and a tammy cloth the cloth woven from these yarns. The worsted tammies were lightweight, plain-weave fabrics, thinly warped so they were strong and stringy. They were often highly glazed by hot pressing and other means. A special form of the tammy called bunt or bunting was sold for making flags.

Records show that Stowmarket, just north of Sudbury in Suffolk, was making bunting in 1675. Sudbury along with Ballingdon, Glemsford and Cavendish continued the trade through the eighteenth and nineteenth centuries. One reason why the manufacture of bunting outlived that of most other jersey textiles was that women and girls could do the weaving, this being relatively light work.¹ There was a clear southward migration of bunting production from Norwich in the 1570s down to Sudbury on the border of Essex, by 1700, in part explained by the mechanized weaving of heavier cloths in the north.

¹ Kerridge, Eric. *Textile Manufacturers in Early Modern England*, Manchester University Press, 1985.

Wool Trade during the 1700-1800s

During the late 1600s the textile guild system was beginning to decline. Throughout the 1700s journeymen (trained textile apprentices) began to set up as small masters. In order to do this they moved to the suburbs to escape the jurisdiction of guild leaders and city council regulations. Due to this movement, cloth production spread further into the country giving rise to the domestic or *putting-out* system. Clothiers bought raw wool that was distributed to spinners; they then collected the concomitant yarn and sent it out to weavers for the next stage in the fabric production.

Mercantilism led to the policy of *laissez-faire* from the mid 1700s through most of the nineteenth century. The industrial revolution for textiles generally spanned the period 1770-1850. This led to the advent of the factory system, where industry shifted from a largely rural handicraft system to an urban one dominated by the machine. It is interesting to note a pre-factory type of control in relation to weaving. In Sudbury, Suffolk, a row of cottages was built specifically for weavers (Weavers Lane). The second floor containing large open windows, to allow sufficient light to aid a faster and more efficient process, while also allowing control of the location of the weavers. Since domestic production could no longer meet the increased demand, it was necessary to shift from home to factory to accommodate the exigency. The cotton industry was the first to industrialize, but the putting-out system continued in the woolen, linen and silk industries well into the 1840s.²

By 1741, nearly half (44%) of the raw wool in England was of the long-staple variety, mainly from Lincoln and Leicestershire sheep breeds. With this popularization of long-staple wool during the 1770s, most of the wool produced was being adapted for the manufacture of worsted fabrics. Worsted products included the *worsted proper* and a range of fabrics known as the *new draperies*. These included fabrics known as bayes, sayes, serges, grosgrains, sagathies, mockadoes, shalloons and tammies. The variety of fabrics differed little other than in fineness and weight. Worsted fabrics lacked the strength given by felting (to woolen fabrics, often referred to as cloth) and relied to a great extent on the strength of the warp and the weft. These full worsted fabrics were made entirely of long-stapled wool that was combed instead of carded (as in the woolen system). Both the new draperies and the old-type worsted fabrics were much lighter than broadcloth (woolen fabrics) and used much less wool per yard. Eighteenth century statutes fixed the minimum width of a broadcloth as 49 ½ inches and a maximum length of 46 yards, while narrow cloths were between 27-30 inches wide; regulations which were rigidly controlled. Statutory control of the worsted fabrics was not as rigid, and variations in cloth widths were more common.

The 1750s saw an expansion of trade with America. By the early 1770s the thirteen American states accounted for a third of English wool fabric exports, particularly worsted. These wool fabric exports to America comprised £1,000,000 in foreign trade for England, with trade trebling by the turn of the century. In order to take advantage of the growing market, many merchants were taking control of the finishing processes so that they could dominate textile production from raw wool through the fabric stage to marketing. English worsted manufacturers were well placed to exploit the growing demand, since the amount of long-staple wool grown abroad was comparatively small.

² Wilson, Kax. *A History of Textiles*, Westview Press, Boulder, Colorado, 1979.

Availability of Military Textiles in the 1800s in America

During the late 1700s and early to mid 1800s textile manufacture in America was developing, but records show that the quality was still not at a high enough level. A letter dated January 1867 from the US Bunting Company in Lowell, Massachusetts to the Hon. John Sherman, United States Senate, outlined the current state of bunting manufacture in America. The letter stated that the fabric had passed the severest tests and had been certified by the Navigation Bureau of the Navy Department. The letter confirmed details regarding the importation of bunting fabric during this period, noting:

Prior to 1865 no American bunting had ever been successfully made in the country. No American ship had ever fought under a yard of American bunting. Foreign manufacturers during the war put the price as high as thirty-six dollars per piece, at which time the government was using from 12,000 to 15,000 pieces, perhaps more, per year. It could be made in England then as cheaply as now, say thirty shillings per piece for first class bunting one-half a yard wide.³

The commensurate costs were rates of \$10 per piece – where each piece was forty yards in length and eighteen inches in width. As will be noted later, this is directly linked to the dimensions of English bunting fabrics being imported for military flags.

The Fabric Known as Bunting

Bunting has a number of definitions depending on the etymology, but all are in agreement that it is a plain weave loosely woven wool fabric used for flags.

Bunting⁴: A cotton or worsted fabric with a plain open weave that is similar to cheesecloth and scrim. It is dyed in the piece and used for flags. Wool bunting is woven with worsted yarns of strong wiry wool; it has 2-ply warp and single filling, and it is a soft lightweight durable fabric. A plain woven loosely textured cloth, texture ranging from 24-36 x 24-32 per inch. The fabric yarns had a high twist in the warp with the fill being softer and having less twist. It was also known as banner cloth: a worsted fabric made in England during the eighteenth century.

Bunting⁵: The old English word *bontin* meant “to sift” and from this comes the expression “to bunt”: to sift meal or flour. A plain open weave of woolen cloth was made and stretched across the bunt of the sieve. This cloth was known as bunting.

Bunting was also known as *etamine* in France, this term being used to describe a fine wool crepe fabric. The German word *bunt* meant “strong bright colours” typical of bunting, with *buntgewebe* being the German word for colored fabric. Both these terms describe the plain open crossbred woolen cloth known as bunt or bunting.

Bunting⁶: Woolen fabric of rather open tabby weave, used for making flags, also known as bewpers and bunting. Bunting (mentioned in the mid seventeenth Century in Samuel Pepy’s Diary as bewpers) is always used for the code and identification flags of ships, as it stands up better to salt and weather than other fabrics. It was not manufactured in the USA until after 1865 when tariff regulations made production competitive with British goods.

³ Office of the US Bunting Company, Lowell, Massachusetts, January 1867.

⁴ Tortora, P.G. & Merkel, R. S. *Fairchild’s Dictionary of Textiles*, Seventh Edition, Fairchild Publication, New York, USA, 1996.

⁵ Hardingham – *The Illustrated Dictionary of Fabrics*, Studio Vista, New York, 1978.

⁶ Clabburn, Pamela. *The Needleworkers Directory*, Walter Parish International Ltd, London, 1976.

Bunting was usually dyed in the basic armoral colors. These consisted of red, blue, yellow, white, and black, with green and orange being a later addition. The color range probably related to the shades that could be achieved with vegetable dyes available over the centuries. While the latter 1700s were a time of great change in terms of industrialization of many processes, one process that saw little change or improvement was the dyeing of wool textiles. Woad and vegetable sources were still being used even after Perkins 1856 discovery of aniline dyes. In the eighteenth century woad had been replaced with indigo for blues, although it was still being used as a fermenting agent in the indigo vat. Of the natural red and yellow coloring matters utilized, madder, which was obtained from the dried roots of *rubia tinctorum* was one of the most valued and largely used dyes prior to alizarin. Cochineal was obtained from the dried insect *coccus cacti* and gave a yellowish or fiery red. Dyewoods were used in conjunction with other dyes to achieve particular shades, as well as extending the dyebath with a cheaper dye.

Sudbury, Suffolk

Sudbury, Suffolk, on the border of Essex was a market town dating back to Saxon days, being mentioned in the Domesday book 1086. The beginnings of the worsted industry date back to the Flemish weavers who settled here in the Stour Valley during the late fourteenth century. The evidence of craft surnames and the presence of fulling mills in Sudbury in the thirteenth and fourteenth centuries indicate that the Suffolk broadcloth industry was in existence, even though on a small scale before the arrival of the Flemish weavers.

For most of the period 1793 to 1815 England was at war with France. This long conflict disrupted the supply of goods from overseas, and doubled the price of food. The poverty of agricultural workers and their families, by far the largest proportion of the Suffolk County's population, was to some extent caused by the industrialization of northern East Anglia. For nearly 200 years the women and children of this northern region had contributed to family income by combing wool and spinning yarn for the Norwich worsted industry, but in this region the production of yarn was mechanized by the early nineteenth century. Widespread poverty inevitably led to social unrest, with frequent riots in the second half of the eighteenth century caused by food shortages, particularly affecting towns like Sudbury. After the introduction and popularization of the new draperies, most districts that had produced broadcloth failed to adapt to the new fashion, and this caused the demise of towns such as Bury St. Edmonds and Lavenham previously famed for their woollen cloths. They ended up as suppliers of yarn only to weavers in Norwich and Essex. Only rare places like Sudbury and Glemsford embraced the new fabrics and secured a continued future in fabric manufacturing.

In 1772 Arthur Young, an authority on English agricultural, undertook a six week tour of the Southern Counties of England, during which he observed the conditions of manufacturing towns. He noted that Sudbury possessed a good trade in says, burying crepes and also in bunting for ships flags. These were noted to be predominantly for the London market and some directly for exportation.⁷

The lamentable condition of some of our manufacturing towns as present is not a particular feature of our times, for Sudbury is described as 'an exceedingly dirty but great manufacturing town.'

⁷ James, J. *History of the Worsted Manufacture in England*, Longman, Brown, Green, Longmans and Roberts; and Charles Stanfield, Bradford, London, 1857.

The weavers of the says and burying crepe earn from 7-9 shillings, but the first price is more common. Besides these articles, they weave ship flags, which employ the women and girls of seven or eight years of age, yielding the latter about two shillings and sixpence, or three shillings a week. The whole manufacturing works chiefly for the London markets, but some says go down the river (which is navigable from here to Manningtree) for exportation.⁸

It can be noted that the earnings of the male weavers was at least triple that of the women and girls. They were weaving heavier fabrics but the contribution of the lower paid female workers provided a much needed boost to the economic welfare of village households.

In 1784 this process was repeated when a young Frenchman Francois de la Rochefoucauld took a house in Bury St Edmunds near his father's friend Arthur Young. Together in July, they went on a tour of Suffolk starting at Sudbury. They asked a manufacturer about the weaving industry and Francois notes:

There is a considerable trade in wool and silk stuffs. The latter are all for the London market, the money being invested by merchants from the capital who get the work done at the lowest prices. There are about a hundred looms at work. The number of woolen looms is larger. The cloth is coarse and thin, a kind of double serge suitable for being made into dresses for women of the lower classes. The workman's wage is from twelve to sixteen shillings a week. The rent of land on the outskirts of the town is twelve shillings.⁹

The decline of the once flourishing cottage textile industry meant that in many places the weaving of fabrics had virtually disappeared. However, around Sudbury during the eighteenth century the production of bunting was substituted for the previously made more expensive fabrics. The bunting was made almost entirely by female labor, unlike the other worsteds that required the higher priced labor of males for the weaving process. An already established infrastructure for the cottage industry in the region supported the availability of women and girls to weave the lighter weight fabric. This allowed the Sudbury weaving industry to outlive other branches of the cottage textile trade and continue until the 1870s. Higher wage costs for the weaving of the heavier weight fabrics by men probably contributed to their industrialization.

The Sudbury Clothier, Thomas Griggs

Thomas Griggs was born 1701 in Sudbury, the second son of a saymaker (clothier). After some earlier ventures as a merchant, he became a clothier, with his business based in Sudbury. Griggs went bankrupt prior to 1730, not uncommon for clothiers of the time. Griggs' bankruptcy possibly from inexperience or inadequate resources may have accounted for his focus on assessing and carefully determining costs. During the latter half of the eighteenth century he essentially had the monopoly on the making of bunting fabric in Sudbury. Griggs was an early businessman in the modern sense as he attempted to determine to what we now refer to as fixed and variable costs. Records of Griggs' attempts to calculate his manufacturing costs have survived.¹⁰ The organization of Griggs' textile manufacture is depicted as a single enterprise larger than the typical manufacturing unit in the period. Details include manufacturing costs,

⁸ Ibid. (p. 70).

⁹ Berry, Allan. *Eighteenth Century Sudbury* Suffolk County Council, Suffolk Books, 1992.

¹⁰ Burley, K.H. *The Economic History Review* (v. XI, no. 2), An Essex Clothier of the Eighteenth Century, Australian National University, Canberra, Australia, 1958.

wage rates, earnings, scale of production, and the marketing and financial basis of the enterprise. His versatility was necessary for the survival of his textile interests.

Griggs utilized the ready cash accruing from the sale of groceries to meet his textile wages. With a labor force of approximately 500, the largest group was the spinners, who numbered about 400, accounting for 80% of the workforce. Since records show that one comber could supply ten spinners there were about forty combers. Combers commanded the highest wages in the whole process, so the most efficient combers were much sought after, and also comprised the lowest numbers of operatives. Griggs' book records show evidence of approximately seventy weavers, thirty of whom were full-time. Most of these bunting weavers were women and girls.

After 1752, naval expansion revived the demand for bunting and to take advantage of a sustained demand for bunting, Griggs extended his textile interests to include organizing the manufacture and marketing of the fabric. These years of maximum activity correlate with years of war or preparation for war through naval expansion. Due to the normal 3-6 month credit extended (and expected) it could be said that Griggs aided naval expansion. During this time crepe and say production was tapered off to compensate for the expanded bunting manufacture.

The Manufacture of Bunting

The manufacture of bunting was a cottage industry and each different part of the process was carried out in Sudbury as well as the surrounding villages; e.g. spinning of the wool (if not bought as yarn), weaving into bunting piece goods, and dyeing of the fabric in piece lots. The raw materials required were wool, oil and soap. The wool supply was obtained from London, Bury, Stourbridge Fair, and predominantly from the Sudbury wool hall and local dealers. Sometimes Griggs brought in yarn in order to meet escalating demands, and probably to supplement the spinning being done under his command. Four main types of operatives were employed in the manufacture of the fabrics: sorters and scourers, combers, spinners, and weavers. Hand-combers in 1747 earned 12-21 shillings per week, and these workers were the best paid operatives in worsted manufacture.¹¹ Records show that weavers earned 4-8 shillings/week and spinners 3-6 shillings/week, approximately a third that of the combers.

Piece rates were linked to market conditions. "There was a certain amount to be done for a shilling". While this quantity was always the same, the payment varied according to the demand, from 10 pence to 15 pence for the shilling (where one shilling = 12 pence). The price of the shilling was therefore the instrument that measured the comfort of the workers. Fluctuations suggest that wage rates were extremely sensitive to variations in supply and demand in the labor market for spinners. This accounts for records that show conflicting estimates for daily earnings. However, wage rates for weavers were markedly rigid. Apart from the repayment of wage advances and the fines deducted for underweight or badly woven fabrics, weavers were paid their full earnings based on the piece rates. Wages were calculated according to the number of skeins of yarn to be woven, and this ranged from 8 skeins per shilling for narrow bunting, to 10-12 skeins per shilling for broad and extra long bunting respectively. The weaving was mainly concentrated in Ballingdon and Sudbury, with the weavers collecting their work from and returning it to the clothier's headquarters. The completed bunting was collected by an agent and sent to London.

¹¹ Burnley, James. *The History of Wool and Woolcombing*, Sampson Low, Marston, Searle and Rivington Ltd, London, 1889.

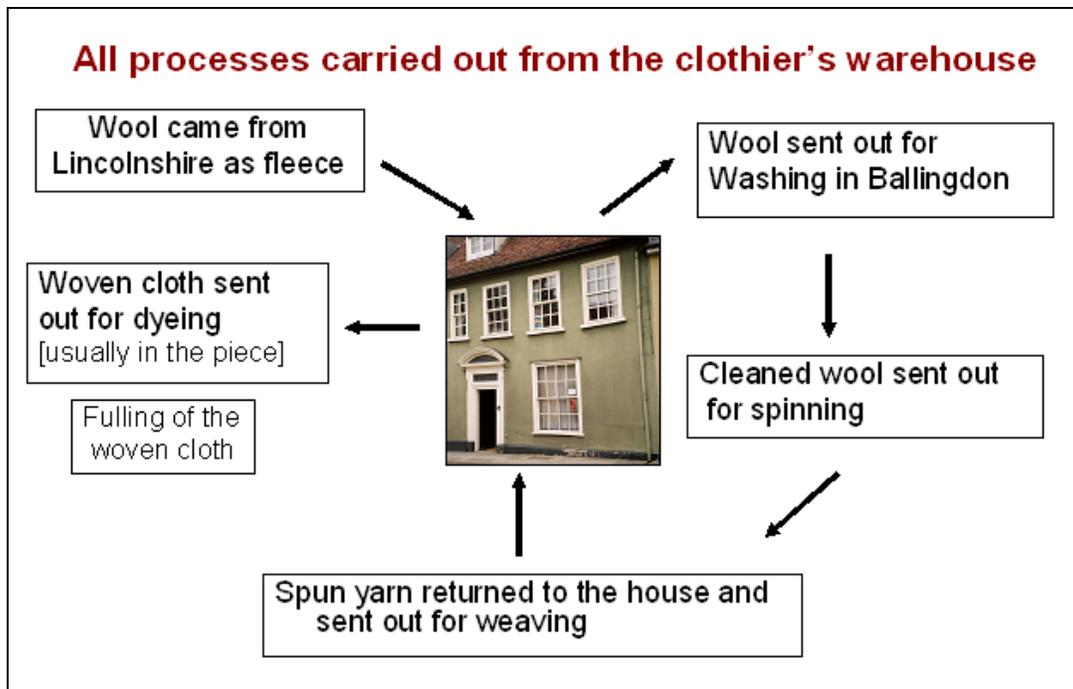


Figure 1. Bunting Manufacturing Processes

Sudbury's status as a market town was strengthened by the Act of 1705 when the canalization of the Stour River down to Manningtree was undertaken. Efforts to clear the clogged river had been under way since the late seventeenth century to make transportation of goods to the coast economic. Some London businessmen and prominent local families supported the venture. The Stour River ran through Sudbury down to the East Coast of England, which opened up the potential for trade to the London market and exportation. With the industrial revolution most of the textile industry went north. However the making of bayes and sayes (coarser worsted fabrics) along with bunting, remained in Sudbury.

The location of Ballingdon across the river is of interest; since processes that produced large amounts of effluent, such as washing, were carried out beyond the town outskirts.

One source of pollution in earlier days was caused by the practice of processing freshly woven cloth on the meadows. Before work on the cloth could start, a cart would be sent round the town for the express purpose of purchasing the contents of piss pots for a penny each. The urine was then used to bleach the cloth while the clay dug from the meadows was used to *full* the woven material. This process made the cloth thicker in the same way that textiles are dressed today. Not only did Fulling-Pit Meadow get its name from this process – the pit where the fulling took place – but the native clay, hydrated aluminum silicate, became known as *fuller's earth*. Today this kaolin-like substance is used in filtration plants and traces of the remains of the pits from where it was dug are visible.

Bunting was only made on demand. Since demand escalated during periods of war, during wartime manufacture of bunting was increased and production of other fabrics ceased. Therefore the making of bunting was rather erratic. Records show that years of maximum activity correlate with years of war or preparation for war through naval expansion. To some extent Griggs offset increases in the prices of materials by varying the quality of his products. For example: when wool stood at 15 pence a pound, he used 7 ½ pounds in the warp of a 30 yard say, but only 7

pounds when wool rose to 16 pence a pound. The same proportional decreases in amounts of wool were also applied to bunting fabric. This provides valuable information regarding the variations often seen in the quality of historic bunting fabrics. Cost analyses for bunting show an average of 46.5% for materials and 53.5% for labor costs.

The most common quantities of wool per fabric were:

Bunting	Warp (lbs)	Woof (lbs)
2 pieces of long broad (19-22 inch)	6 ½	6 ½
2 pieces of short broad (19-22 inch)	6	6 ¼
2 pieces of long narrow (11 inch)	6	6 ½
2 pieces of short narrow (11 inch)	5	6

The two main buntings made were referred to as being woven into narrow (11 inch) or broad (19-22 inch) pieces. It was noted that “The principal bunting buyer was the navy contractor for the supply of flags, etc made from a bunting of these dimensions”. Later reference to short or long pieces of bunting does not specify the actual length, but it is probably that the length was at least 13 yards. Says and bayes are noted to be in lengths of 27, 30 and 42 yards.

In 1755 there is reference to Stephen Oliver, a London carrier sending a double wagon to Sudbury to be in London in time for Saturday’s market. One of his regular customers was Thomas Griggs, from whom he had been taking consignments of cloth to Griggs’ nephew in London. All the fabrics made by Griggs were marketed in London by his two agents. These agents worked on a commission basis and his nephew William Hills handled the bunting. The bunting accounts show not only the quantities sold but also the buyers’ names. All the bunting buyers whose designations are shown in contemporary directories were ship chandlers or slopsellers. The principal buyer was a firm of ship chandlers at Wapping that held a standing contract to supply the naval dockyards with “colors and flags of all sorts made of both 11-inch ‘narrow bewper’ and 22-inch ‘broad bewper.’”

Despite a slump in the demand for bunting after the end of the War of the Austrian Succession, at this period Griggs was still selling about £3000 worth of cloth per year.

Research has located the house where Griggs’ family lived, as well as the probable location of his office and manufacturing facility. While Griggs held the monopoly on the market in Babergh and Ipswich, documents uncovered reveal that there were a number of areas where bunting was made in the region. With his shop and factory in Ballingdon, records show bunting being made until around 1870. Around this time bunting manufacture was superseded by the introduction of silk weaving into Sudbury. Due to high wages demanded in London, and pollution problems, the benefits of cheaper labor and cleaner conditions in Sudbury encouraged the silk industry to shift from London. Sudbury became the largest silk producing region in Europe. This created the demise of the woolen industry in Sudbury, and hence the manufacture of bunting greatly reduced and appeared to have faded out.

The Journey of the Bunting

Thomas Griggs’ mother was related to the Gainsborough family, being a cousin of Thomas Gainsborough (the artist). Griggs’ uncle, Thomas was a wealthy businessman with export and importing company. His son Thomas (Griggs’ cousin) was based in New York as an agent for their exporting and importing business. The range of goods bought and sold was broad, and the importing of bunting fabric to the United States was likely to have been through this connection.

Intermarriage with other export/import merchant families provided a further link for the importing of bunting fabric to the East coast of America. From New York, the routes to Fort McHenry in Baltimore, Maryland, and (Old) Fort Niagara, New York can be easily derived. The dimensions of the bunting fabrics noted relate well to those of flags of this era – 18-inch width evident from the Star-Spangled Banner, and the 19-inch stripe width apparent in the Old Fort Niagara flag, both with observable selvedge edges and both from the War of 1812.

Conclusion

The contribution of women and children was critical to the economics of working family life during the early 1800s, preserving the textile cottage industry in the face of increasing industrialization. Strong international trade and economic ties continued to bind the producers and consumers of specialty textiles despite social, cultural and national differences. The contribution of the working class in England to the newly independent and revolutionary USA is somewhat ironic, given the poverty and unrest experienced by the English bunting workers throughout this period in our social history. Textiles have, and continue to be, integral to the fabric of society, from the everyday to the ceremonial.

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