

The Landmark Trust

St MARY'S LANE History Album



Written by Charlotte Lennox-Boyd 1985, updated 2015

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KEY FACTS

Built	18th century
Acquired by Landmark	No 30 (now on a long term let) was acquired in 1970 from Gem Town Ltd. No 32 (Landmark holiday let) was acquired in 1982 from Mrs Bedham
Restoration	No 30 was restored in 1971-2 No 32 was restored in 1984
Architects	HG Raggett ARIBA
Contractors	FH Safe and Son, Cheltenham

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Summary

These stocking knitters' cottages date from the 18th century, an era when industrial housing still retained a measure of dignity. As such, they are relatively rare survivals. Tewkesbury had been known for its stockings since the 17th century: in 1724, Daniel Defoe described the town as 'famous for a great manufacture of stockings.'

Stocking knitting was one of the earliest manufacturing processes to be mechanised – as early as 1589, Rev. William Lee had patented a knitting frame (traditionally, inspiration struck through frustration at his sweetheart's preoccupation with her hand knitting). Tewkesbury developed as an early centre of expertise for cotton stockings (cheaper than silk) because spinners in the west country were used to working with the local short staple wool, which enabled them to twist two threads of cotton together to produce a regular cotton yarn suitable for use on the knitting frame. Framework knitting became the chief occupation for inhabitants of Tewkesbury, and the domestic pieceworkers would have spent their days at the long first floor windows where their knitting frames were installed.

As a direct result of Richard Arkwright's success in factory cotton spinning, by the 1780s, the Nottingham knitting industry, which had previously concentrated on silk, had transferred its focus to cotton, using machine-spun thread superior in quality to that produced by the west country spinners. The inevitable outcome was depression for the more domestically scaled Tewkesbury knitters, further too from the source of mechanically spun thread. The Tewkesbury industry gradually declined through the 19th century, workers creatively turning their skills instead to outer footwear, as the town became known instead for shoe and boot manufacture.

Landmark became involved in St Mary's Lane in 1970, when Nos. 28 and 30 had been acquired in a parlous state by Gem Town Ltd., a preservation group that was an offshoot of Tewkesbury Civic Society and named after this area of the town. The company had drawn up plans for St Mary's Lane but found themselves unable to raise the funds to carry them out. Landmark stepped in and, retaining Gem Town's architect H G Raggett, paid for the restoration of both cottages, in return for the freehold on No. 30. (Gem Town Ltd kept the freehold of No. 28, which they have since sold).

No.28 was the most dilapidated, having suffered from the removal of its neighbour at the end of the row. Its roof had fallen in and its side gable wall had to be rebuilt. Both cottages were retiled with original and second hand tiles, new dormers were installed and first and second floor floorboards replaced. The yards were tiled with old blue Staffordshire bricks, whose strange size (12" x 6½") made them impossible to lay herringbone fashion. The first Landmarkers stayed at No. 30 in 1972.

In 1982, Landmark acquired No. 32, which had also been allowed to decline, and Mr Raggett again drew up plans for its restoration. Equivalent repairs were required to this cottage too, including the rebuilding of its dormer window. During the building work, a blocked window was discovered in the side wall and re-opened to reveal the magnificent view of the Abbey tower.

Nos. 30 and 32 were both let for holidays by Landmark until 2006, when No. 30 was instead made available for residential letting to the local community, while remaining in Landmark's care.

Historical Tewkesbury

Tewkesbury, in the middle ages, grew around the great Benedictine abbey, with its variety of activities, charitable, educational, medical and hospitable, beyond the obvious ones of religious observance and the housing and feeding of a community of as many as 150 people. Although there were only some 30 monks, abbeys housed in addition priests, schoolboys, guests and above all numerous lay servants. There were 144 servants on Tewkesbury's pay roll; some would have been attached to three small dependant priories, but anything between 80 and 100 could have served in the abbey itself, carrying out a whole variety of menial tasks from the stable to the kitchens; and others at a more senior level. Some officers, such as the sacristan or the cellarer, were monks; others, such as the chamberlain or the bailiff, might be laymen, living in the abbey with their families.

However, in January 1540, John Wakeman, abbot of Tewkesbury, and the monks of his Chapter, accepted the dissolution of their monastery and surrendered their property to King Henry VIII's Visitors. Although many of the 'superstitious' buildings were set to be destroyed, fortunately, the people of Tewkesbury stepped in to save the abbey church itself, declaring it to be their only parish church. You can now enjoy fine views across the rooftops to the abbey tower from the newly uncovered window in the top floor of the St Mary's lane property. The abbey gatehouse was also preserved and has now been restored by The Landmark Trust and is available as a holiday let.

With the demise of the abbey, Tewkesbury prospered as a trading town. It had the advantages of a site near the confluence of the navigable Severn and Avon at the centre of a rich agricultural district.

A market was established in the late 11th century and river traffic grew quickly. The quay had been built by the 15th century. In the middle ages, merchants took

grain, malt and hides down the Severn to Bristol and overseas. Later, essential goods like coal and salt came in by river for domestic and industrial use.

Like other market towns, Tewkesbury gave employment to a wide variety of occupations but specialised in some commodities. Flour-milling and malting were important over a long period. In the 16th century the town was famous for making woollen cloth and mustard.

Cloth making declined later but Tewkesbury instead became one of the leading centres for framework-knitted stockings, at first made of wool and later cotton. In the late 18th and early 19th century as much as a quarter of the population was engaged in knitting. At first, the frames were rented from master hosiers and set up at home. Large factories with new machinery were built in the late 19th century, but recession and competition from the East Midlands had killed the industry completely by 1914. In fact, the inhabitants of another Landmark property, one of Richard Arkwright's workers cottages, in North Street, Cromford, would have knitted their stockings in direct competition with their rivals in Tewkesbury and beyond.

RX 302.7

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TO THE
Inhabitants
 OF THE
Borough of Tewkesbury,
And its Vicinity.

THE Frame-work Knitters feel it a duty they owe to themselves, and the public in general, to put them in possession of the particulars of a degrading system which our Employers are about to adopt. Owing to some pretended evil existing in the Trade, the Hosiers have come to a resolution to reduce the wages; a measure which if carried into effect, will bring down upon ourselves and posterity inevitable destruction, and sink us into the lowest depths of misery and degradation. In consequence of our Employers giving Notice, that an Abatement of Wages would take place on the first of July, (which is from one to two shillings per Dozen,) which wounded the feelings of every Individual, especially those Men with Families, at a numerous Meeting of the Frame-work Knitters, It was Resolved, to use every means in their power to prevent the great Impositions so long practised upon them, to the great Injury of the Trade, and the ruin of themselves and families, in submitting to a Reduction in the Wages at the pleasure of our Employers. The Trade was willing to submit to a reasonable stint, which our Employers absolutely refused.

Therefore it is not for an ADVANCE OF WAGES we are contending, but to maintain our present price, which our Employers but a short time ago pledged themselves to give.

Signed, in behalf of the Trade,

CHARLES MOORE, Secretary.

July 1, 1825.

J. Mills, Printer, Tewkesbury.

This broadsheet is in Gloucester Library, and speaks directly of the hardship of the framework knitters

Parish of Tewkesbury 25th Oct 1819

In a parish meeting held this day in the Vestry pursuant to a proclamation in the Church yesterday and by adjournment from the meeting of the 18th instant. The Revd Chas. White in the chair.

The Committee appointed by the Parish Meeting on Monday last to assist the Directors of the Poor on their Court Day, presented the following Report.

Ninety parishioners applied at the House of Industry for relief on Tuesday last but only 66 received assistance: of those 90 persons 51 were stocking-frame-work knitters; 8 of whom were in work, but received relief on account of sickness or other causes; 14 were refused relief, though most of them were furnished with employment either at stone-breaking or at Mr Morrell's farm; and the remaining 29 were wholly out of employ and received aid from the parish funds. The total number of the families of those 29 unemployed stocking-makers, including themselves, their wives, and children under 14 years of age amounts to 95 persons; their average weekly earnings, when in work, appear to have been £6, 16, 6, or something less than 4/9 each frame; the total parish relief afforded them on Tuesday was £3, 13, 0, and from the stocking-makers fund it appears they also received £3, 17, 0.

If we compare the numbers of applicants on Tuesday last with the number which applied for relief on a former somewhat similar occasion, the present (risk? list?) will appear comparatively trifling: -on Dec 3, 1816 121 stocking-makers only, and 36 framesmiths and seamers all totally out of employ were relieved by the Directors; independently of 18 stocking-makers who were in employ, and 131 other persons relieved in one week.

Your committee are aware that a great number of those industrious parishioners, and perhaps a still larger body of ? (aliens?) who were out of employ, did not apply for relief on Tuesday - and refrained from a principle of independency, and others had their immediate wants supplied from the fund established amongst the frame-work knitters themselves; but it is much to be feared that, unless some beneficial employment can be found for those persons who are already out of work, and those who may hereafter be discharged, that the numbers of applicants will considerably increase.

Your committee while they regret that the earnings of the Stocking-Maker have long been so much below what is necessary for his proper and comfortable subsistence, - while they conceive that every man who labours incessantly through the day ought to be enabled to gain a sufficient maintenance - are nevertheless decidedly of opinion that the Manufacturer ought not to be expected to give such high wages to his work-people, nor be obliged to find such unlimited employment for them, as would ultimately lead to the ruin of himself and his family.

Your committee are assured that, that this meeting will join with them in opinion, that the peaceable and orderly behaviour of the suffering poor in this place, when contrasted with the turbulence of persons not worse circumstanced in other parts of the Country deserves the highest commendation; and that the liberal conduct of those stocking makers who enjoy an advance of wages, in creating a fund for the support of such of their brethren as cannot find employment, is in the highest degree exemplary and honourable.

Your committee with a view to give employment to such of their distressed neighbours as cannot procure more profitable work, venture to propose to the consideration of this meeting, the expediency of emptying the Mill-Jail of the Stones and Gravel therein, and disposing thereof to the Commissioners of the Roads; and they conceive that considerable improvement might be made, at a comparatively trifling expense, at and near the landing-place on the Quay, if the rapid approach of winter should not render it impracticable. They confidently trust that the Directors of the Poor will use their accustomed active exertions in order to carry at least the first of these suggestions into speedy effect ; and rest satisfied that the parishioners generally will cheerfully lend their assistance in this laudable undertaking, as well as in every other way which may have for its object the ameliorating the condition of the Poor, and at the same time lessening the burthen of those who contribute to the Parish Funds.

Resolved,

That the thanks of this meeting be given to the Committee for the great diligence they have manifested in attending to the request of the last meeting.

That the Directors of the Poor use all diligence in order to procure labour for such of the Stocking-Makers as cannot find employment for themselves; and regret that the season of the year renders it impracticable to adopt the suggestions by the committee.

That it is the opinion of this meeting that the Directors of the Poor should liberally relieve such unemployed Poor as apply for relief without reference to the aid afforded by the Stocking-Makers' Fund.

Charles White

[Thanks to the chairman; other more or less illegible signatures]

Gloucester County Record Office has the Vestry Book of the parish of Tewkesbury, containing among the accounts, this description, in copperplate handwriting, of the miserable situation of framework knitters in 1819



The Rev. William Lee (source unknown)

The invention of the stocking-frame.

The stocking-frame was invented during the reign of Elizabeth I, by the Rev. William Lee, in Calverton, Notts. The legend is that Lee was irritated by the sight of the woman he loved laboriously knitting stockings on needles, and invented the frame in order to secure more of her attention for himself.

His attempts to develop the industry were discouraged in England under Elizabeth and James I, on the grounds that it would put the hand-knitters out of work, and he went to France, where Henri IV protected him, and the manufacture was carried on at Rouen. He died without having made his fortune out of his ingenuity, in Paris, in about 1610. No contemporary portrait of him seems to have survived, but there is a memorial window depicting him in Christ's College, Cambridge, where he was educated, and other imaginary pictures of him.



The memorial window to William Lee in Christ's College, Cambridge, put up in 1852, illustrated in Milton and Anna Grass, *Stockings for a Queen, the life of the Rev. William Lee, the Elizabethan Inventor*

John Aubrey, in his *Brief Lives*, gives an account of Lee's life, and tells a story which illustrates the perennial problem of the conflict between the interests of the workman, and the progress of invention. This conflict was to bring about great suffering while the industry was declining, and is still with us in various manifestations.

HE was the first Inventor of the Weaving of Stockings by an Engine of his contrivance. He was a Sussex man borne, or els lived there. He was a poor Curate, and, observing how much paines his Wife tooke in knitting a payre of Stockings, he bought a Stocking and a halfe, and observed the contrivance of the Stitch, which he designed in his Loom, which (though some of the appendent Instruments of the Engine be altered) keeps the same to this day. He went into France, and dyed there before his Loom was made there. So the Art was, not long since, in no part of the world but England. Oliver Protector made an Act that it should be Felonie to transport this Engine. This Information I tooke from a Weaver (by this Engine) in Pear-pool lane, 1656. Sir John Hoskyns, Mr. Stafford Tyndale, and I, went purposely to see it. It ought never to be forgott, what our ingenious Countrey-Man Sir Christopher Wrenn proposed to the Silke-Stocking-Weavers of London, viz. a way to weave seven pair or nine paire of stockings at once (it must be an odd Number). He demanded four hundred pounds for his Invention: but the weavers refused it, because they were poor: and besides, they sayd, it would spoile their Trade; perhaps they did not consider the Proverb, That Light Gaines, with quick returnes, make heavy Purses. Sir Christopher was so noble, seeing they would not adventure so much money, He breakes the Modell of the Engine all to picces, before their faces.

John Aubrey, Brief Lives ed. Oliver Lawson Dick (1950)



'The invention of the stocking loom'

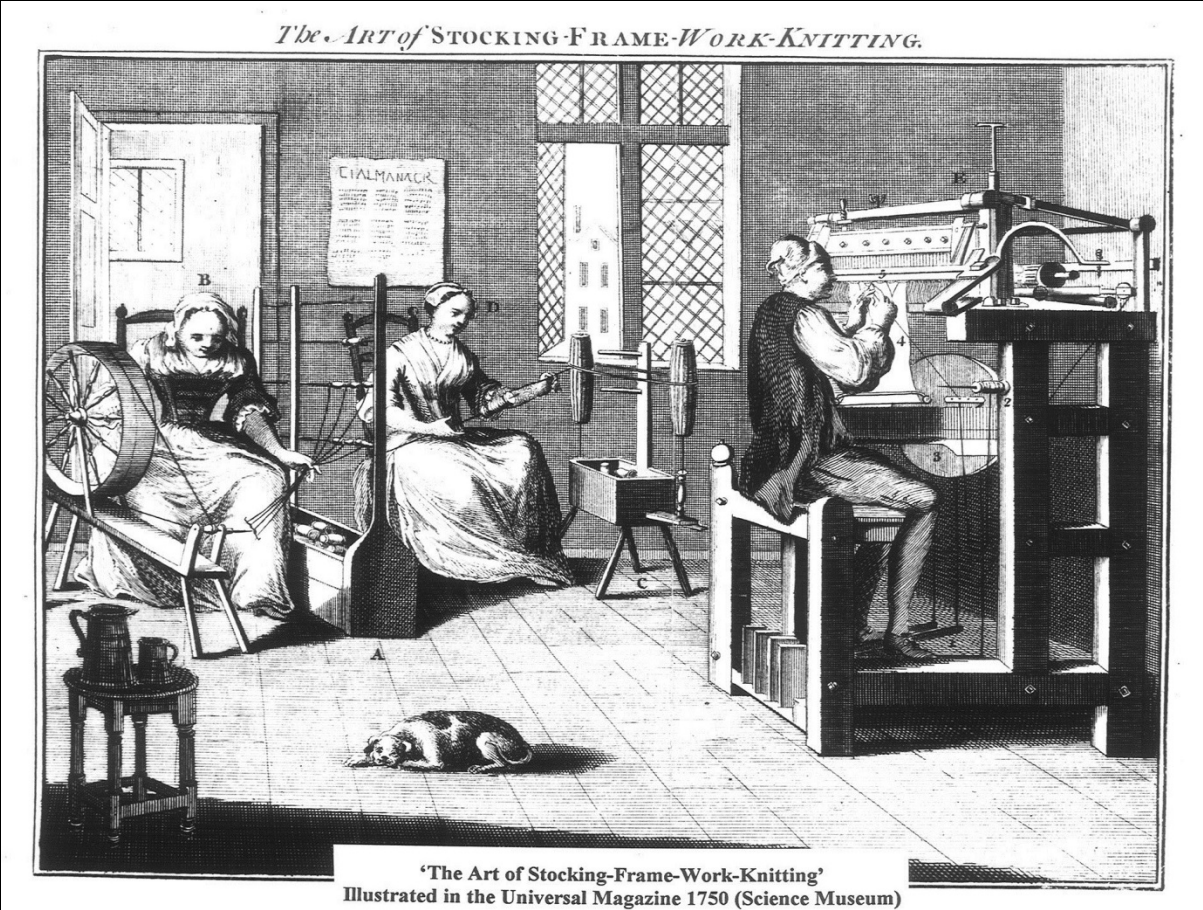
This engraving, after a picture by Alfred Elmore, ARA, 1847, is a fanciful reconstruction of the scene in which the learned clergyman observes his loved one knitting by hand, and determines to invent a better way. The presence of the baby probably indicates that the artist was thinking of that version of the story, as in Aubrey's Brief Lives, in which the young woman is Lee's wife. (Royal Academy Library)

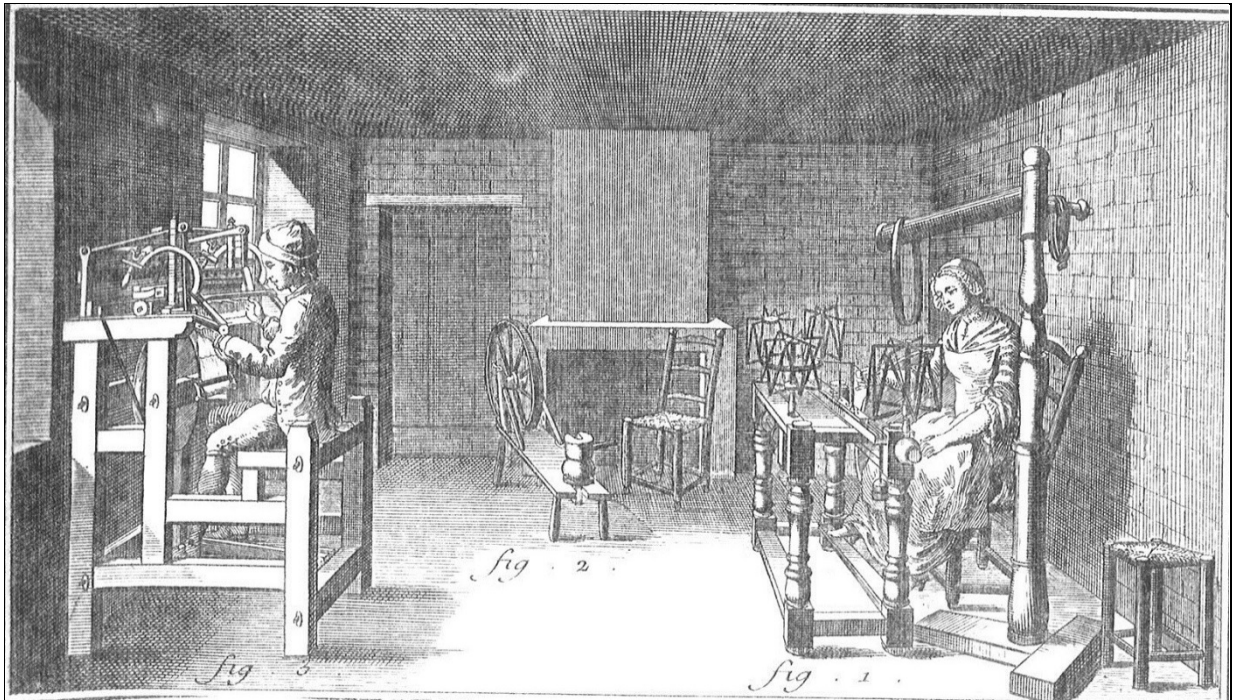


A companion picture by Alfred Elmore to that of Rev. William Lee, was sold at Christies, London on 26 March 1982. It shows the invention of the Combing Machine, and attached to it is a similarly moving legend:

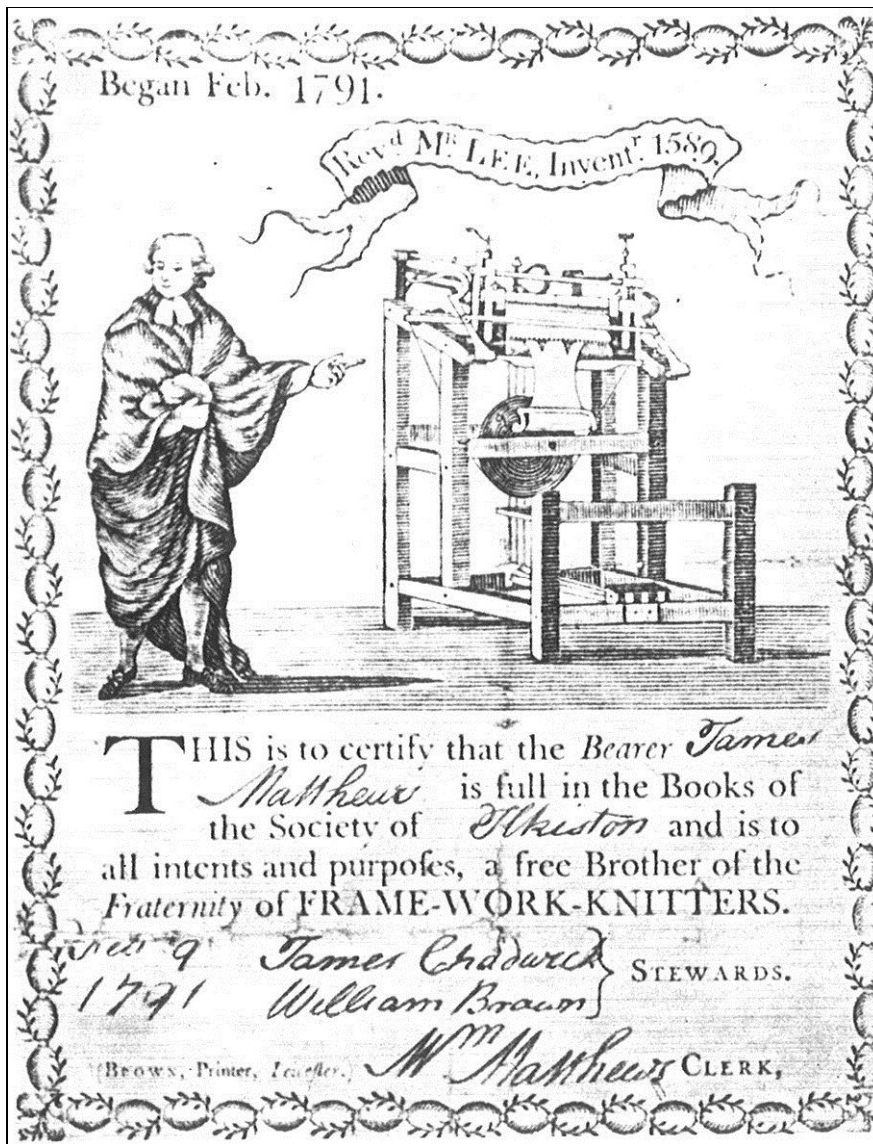
"This ingenious machine, now in general use in every silk, cotton and woollen manufactory in Europe, which, to quote the words of Mr Hawksure, acts with almost the delicacy of the touch of the human fingers, cost its inventor, Joshua Heilman of Alsace, a considerable fortune in fruitless efforts to bring it to perfection.

Disheartened and nearly destitute, he returned to his native place to visit his family, and whilst sitting by the fire, happening to turn round, perceived one of his daughters combing her hair, when an idea struck him. He had found that which was wanting, and to this simple incident was indebted for the perfecting of his invention."

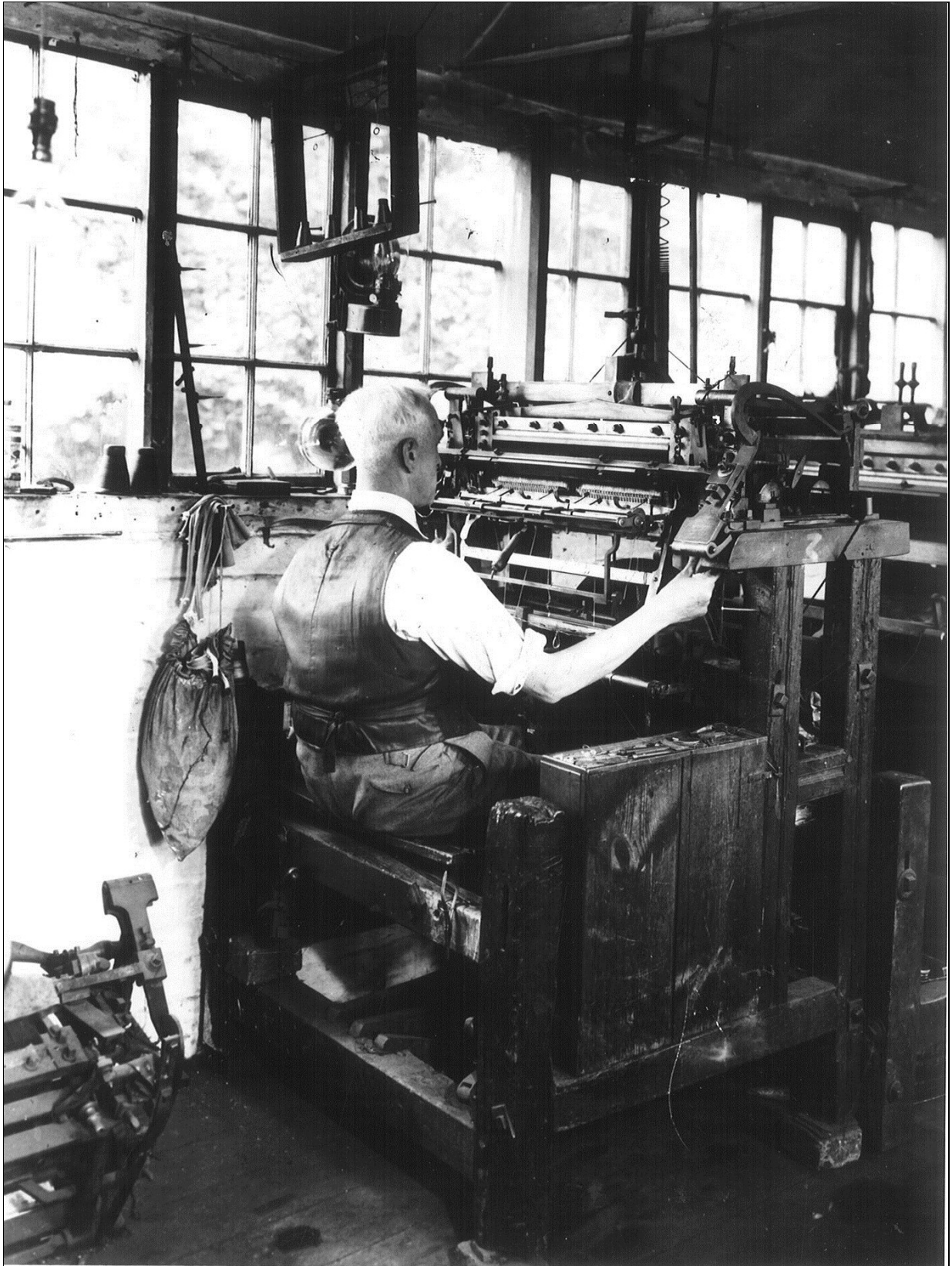




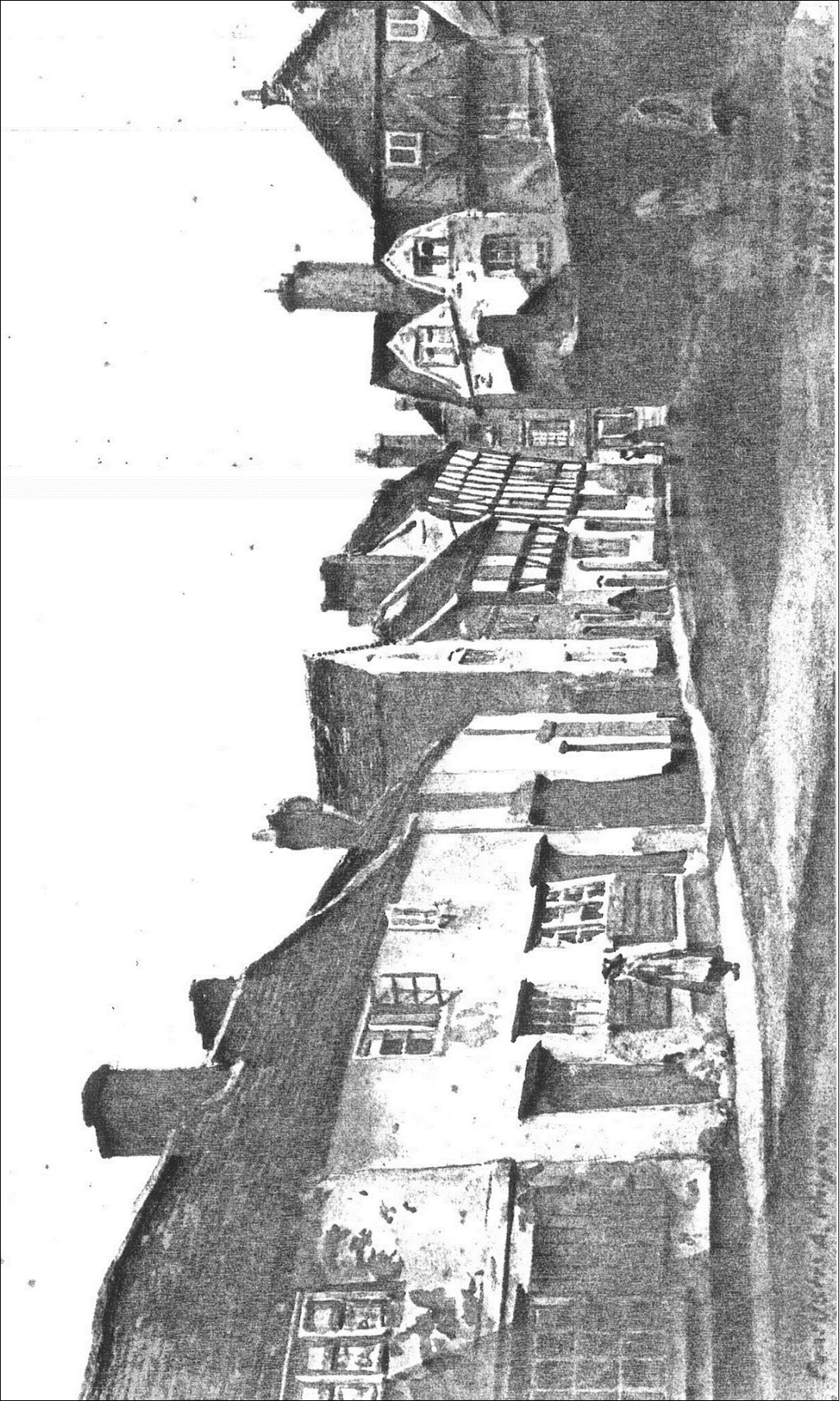
'Metier à faire des bas' The first of the numerous illustrations of the article 'Bas' in the Encyclopédie by D Diderot and J le R d'Alembert, recueil des Plances II (Paris 1763)



A membership card in Leicester Museum, of the Fraternity of Frame-work Knitters, showing William Lee and his invention, dated 9 February 1791



This photograph from Leicester museum of technology shows a framework knitting machine in the workshop being worked



The other end of St Mary's Lane, painted by Evacustes A Phipson in 1902 (Gloucester Library)

St Mary's Lane

This row of framework knitters' cottages is a relic of an industry which once provided the chief employment for the people of Tewkesbury. Its former inhabitants would have spent their days by the long windows, knitting stockings flat on a frame. The dependence of the town on this industry was such that in times of depression there was severe hardship. Defoe in about 1724 called Tewkesbury already 'famous for a great manufacture of stockings'.

According to Bennett's, *History of Tewkesbury*:

In 1810, the number of stocking frames employed in the town was reckoned to be eight hundred; they were accurately counted in 1819, at a time when the trade was in a very depressed state, and they were then only five hundred and fifty-nine. [In 1830] there are between seven and eight hundred frames at work, and it is calculated that these afford employment to about fifteen hundred individuals, or more than one fourth of the entire population.

But the Select Committee on Framework Knitting were told in 1845 that only 380 frames were in use in 1844, and 550 were idle. Independent outworkers became factory workers; there were only eight manufacturers in the town by 1852, and the industry had died out completely by 1910.

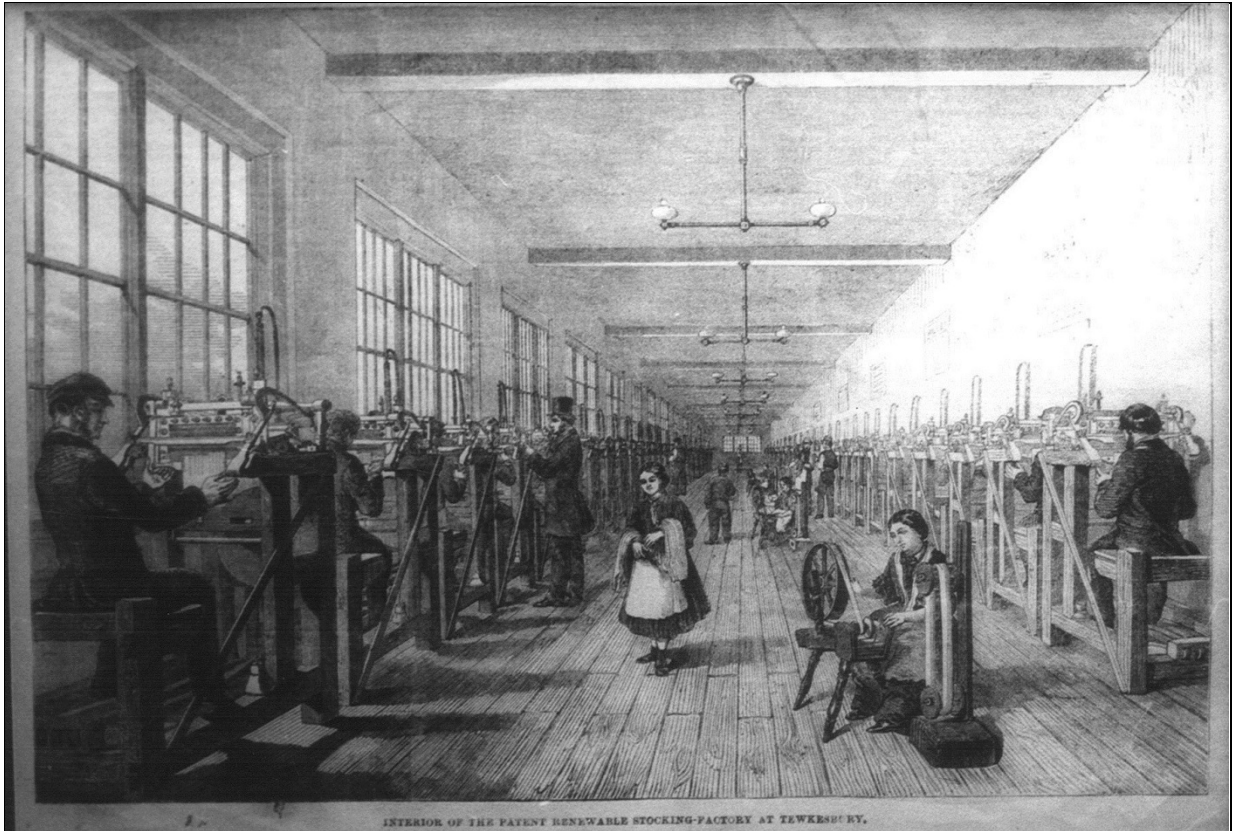
Anyone who is interested in the history of this industry should consult Gravenor Henson's *History of the Framework Knitters*, (Nottingham 1831) which is a very early and remarkable example of working class history written from a radical trade unionist standpoint. There is a copy of this work on the bookshelf. The Tewkesbury Museum in Barton Street is also full of local information.

The three cottages down this lane, all of which have been restored by the Landmark Trust were locally known as the Silk Mill or Stocking Factory. They were in fact built for "home industry" before such workshops or factories were established, a fact which makes the block particularly interesting from an industrial archaeological point of view.

John Betjeman, turning here to look back towards Church Street remarked "*the Abbey Tower looks all the bigger for the cottages and silk mill alongside. How important it is to have small buildings to show up large ones, how essential are these little foils to the big buildings.*"

The semi circular curve of St Mary's Lane is dominated by the three old cottages which line the south west side of the lane. The cottages dominate the townscape at this point. They provide a strong vista approached from the north and their sombre height encloses the curving view of the abbey.

Their construction was simple and typical of their period; local brick and tile, elm timbers in roofs and floors, oak framed windows with sub-frames of iron. The original cottages comprised three floors of one room each linked by a narrow winding spiral staircase of elm boards, and an attic. Later, narrow sculleries were added to the rear of each cottage using space that was once the rear passage-way serving each cottage. Large windows in the front wall lighting the first floor rooms clearly indicate that here were the trade rooms, where the looms were kept. There can be no doubt that the cottages are a relic of the cottage industry of the town and are of interest to the general plan of the area.



**'The interior of the patent renewable stocking factory at
Tewkesbury' Illustrated Times 24 November 1860.
This is a rare picture of stocking frame knitting actually in
Tewkesbury, but the inhabitants of St Mary's Lane were not
factory workers like this, but would have worked at home in a
small co-operative**

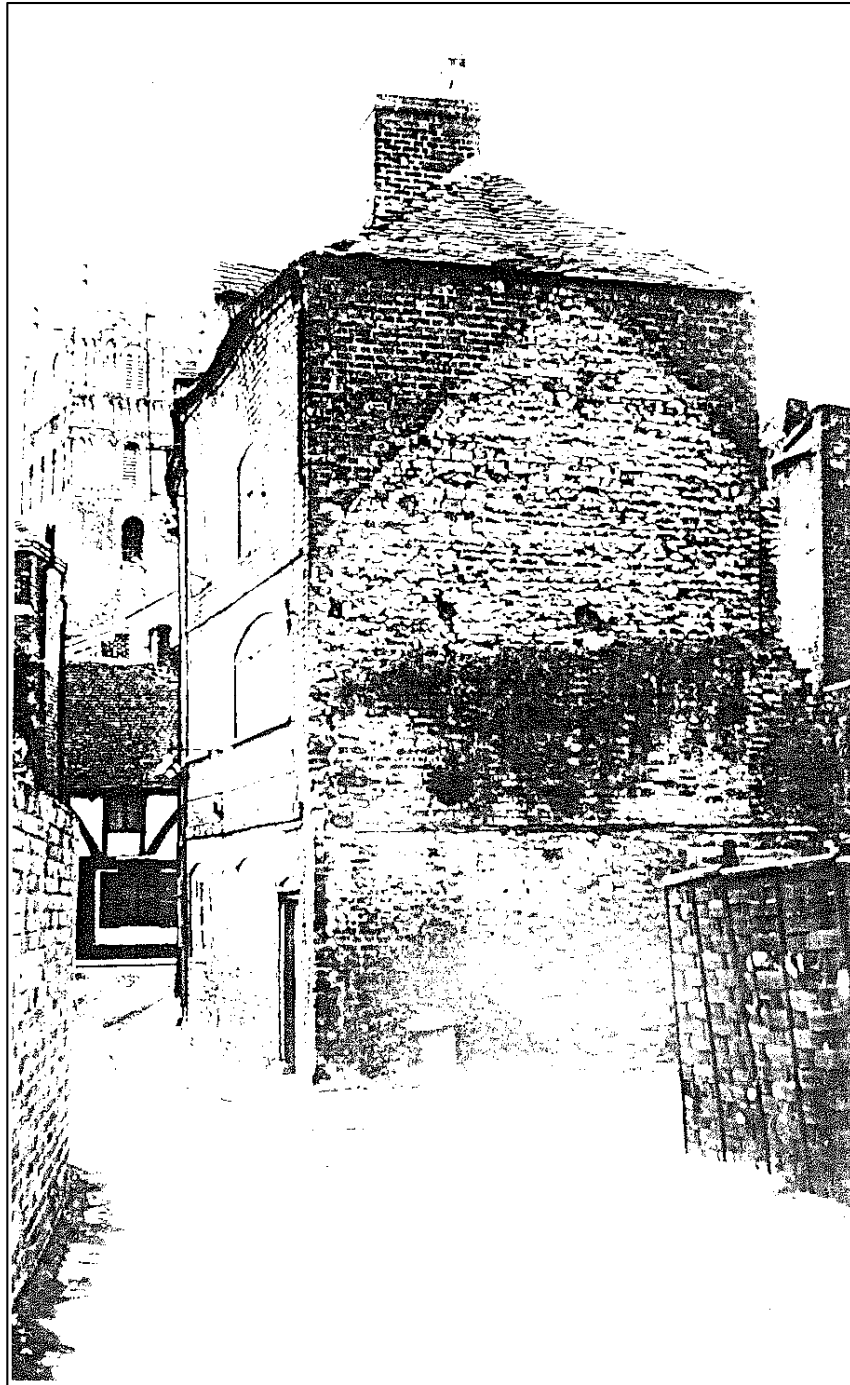


Before restoration in 1969 (photo sourced from the Cheltenham Newspaper Company)

The Restoration of St Mary's Lane

This began in 1970 with the work on Nos. 28 and 30 St Mary's Lane. These buildings had been bought by Gem Town Ltd., a preservation group which was an offshoot of the Tewkesbury Civic Society, operating as a company. Its intention was to restore several buildings in this area of Tewkesbury, which is named Gem Town. They drew up plans for St Mary's Lane, but found that they lacked sufficient money to carry them out. The Landmark Trust then stepped in, and retaining Gem Town's architect, H G Raggett, paid for the restoration of both cottages. In return, we received the freehold on No. 30. Gem Town kept the freehold of No. 28, which, having subsequently become a more commercial organisation, they sold. Building work on these two properties took place during 1971-2, and the first Landmark visitors stayed in No. 30 in 1972. In 2006, No. 30 was withdrawn from holiday letting as a Landmark. It was not proving as popular as it had in the past and we judged that it could be better used to provide a home for someone in the local community. Still owned by Landmark, it is now let for this purpose.

No. 32 St Mary's lane belonged to a Mr Lord, who died in 1975 aged 85. It was bought by Landmark from his relation Mrs Bedham in 1982, and Mr Raggett again drew up plans for its restoration. This was carried out in 1984, and the first visitors stayed in the cottage in July 1985.

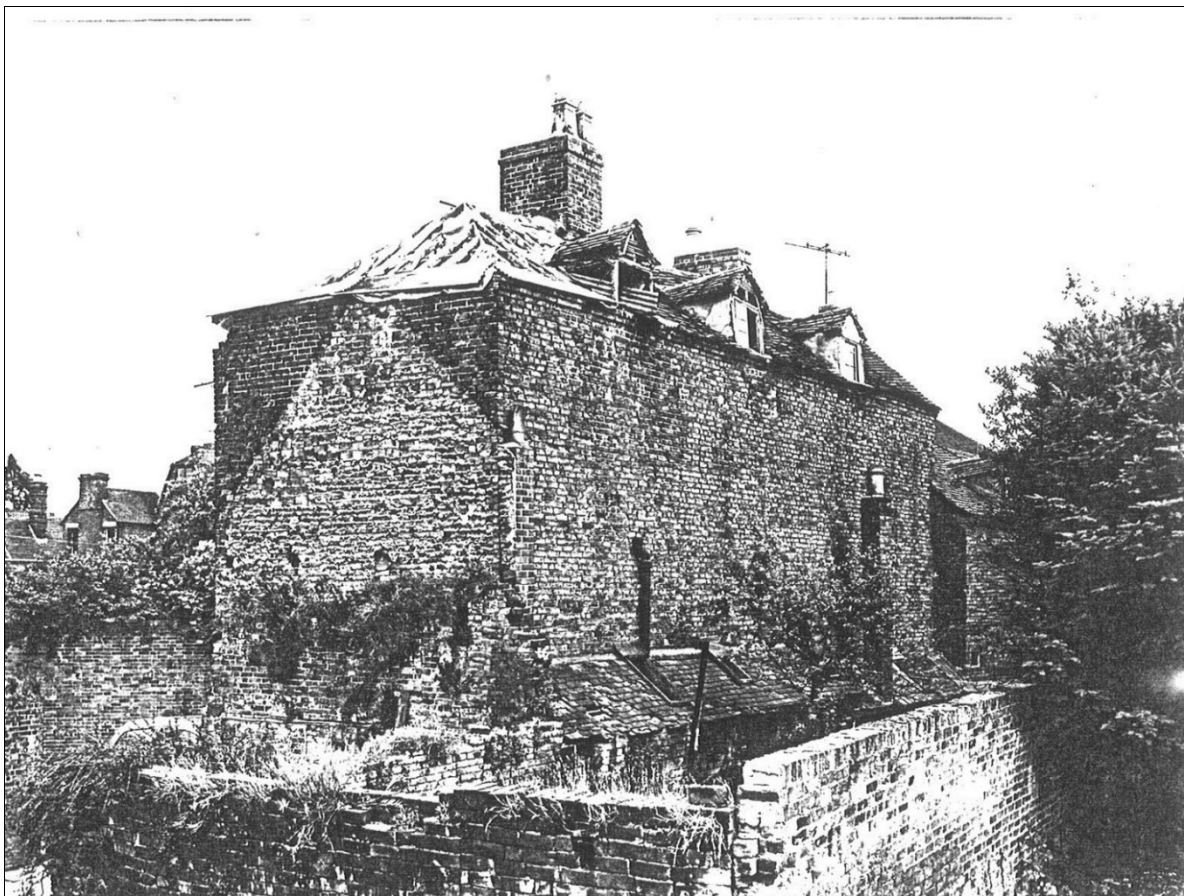


Before restoration in 1969

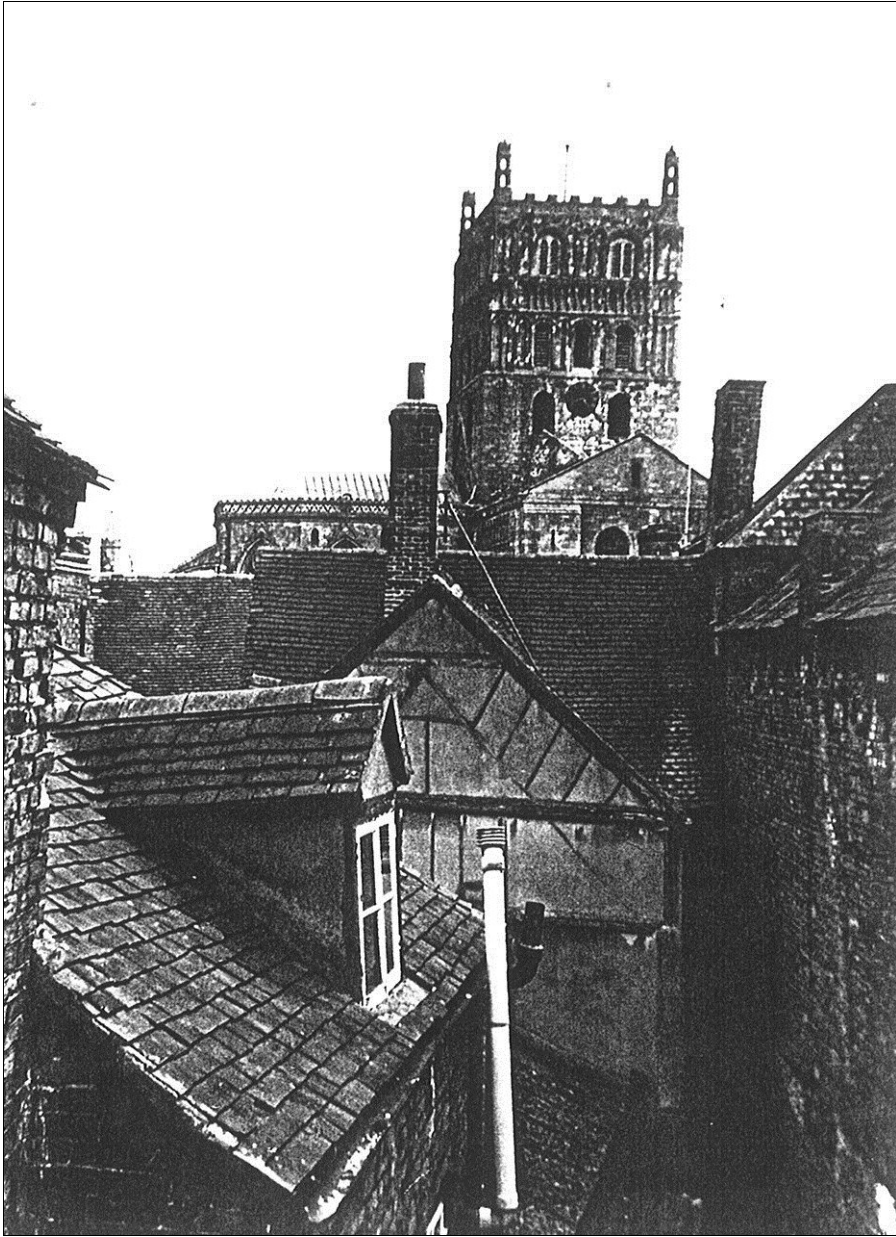
As can be seen from the photographs dated 1969, the most dilapidated of the three was No. 28, on the right, which had been affected by the disappearance of a building further to the right. Its roof had fallen in. No. 30, the middle cottage, was in the best repair. No's. 28 and 32 both needed new roofs, and all three cottages were retiled with original and second-hand tiles. The side gable wall of

No. 28 was rebuilt, and windows damaged by the falling roof were replaced. New dormers were put into Nos. 28 and 30. Replacement doors, in keeping with the old ones, were put in.

The first floors of Nos. 28 and 30 were replaced with softwood boards, and the attic floor of No. 32 with elm boarding bought from a supplier near Stroud. The dormer window of No. 32 was rebuilt and its old iron frame put back in. During the building work a blocked up window was found in the side wall of this cottage, and so a window was cut with a magnificent view of the Abbey tower. The yards were tiled with old blue Staffordshire bricks, found by the builder from near Gloucester, which were 12" x 6½", a strange size which made it impossible to lay them herringbone fashion.



The back of the cottages in 1969



From the window on the stairs 1975

Annexes

"William Lee and the Stocking Frame" Fact sheet from Leicestershire Museum (1979)

"Purl and Plain in the Midlands, framework knitting and its ancient guild", Helen Harris, Country Life, December 26 1974



William Lee and the Stocking Frame

18

information sheet

William Lee and the Stocking Frame

This information sheet is designed to describe how the old knitting "hand frame" worked. It will be of most value used in conjunction with a visit to the Knitting Gallery at the Leicestershire Museum of Technology where the Stocking Frame is displayed in historical context with other machines. This publication should also serve as an introduction to further study for those interested in the beginnings of the Hosiery Industry.

In 1589, when the stocking frame was first patented by the Rev. William Lee, knitted goods were relatively common in Britain, particularly caps and stockings. There is no evidence that hand knitters were not supplying demand and it is, therefore, doubly surprising that this invention should have been made at such an early date and with no apparent economic pressure for it.

Before the 16th century all knitting was performed with a pair of rods (such as modern domestic knitting needles) or on a peg frame.

This could be flat or circular, carrying a number of evenly spaced pegs. The simplest example and, perhaps, the best known, is children's *French Knitting* made on four pins placed round the central hole of a sewing cotton reel.

The peg frame is worth considering in detail as it is almost certainly the ancestor of William Lee's hand frame.

Fig. 1 shows a linear peg frame on which plain knitting is being made. The knitting hangs from cross pieces on top of the pegs. Each new row is made by placing fresh yarn across the tops of the pegs. One by one the old (top) loops are removed *over* this yarn. This is *casting off* or *knocking over* and forms new loops. The knitted fabric which results hangs down in front of the pegs. The specially made model peg frame in the Museum demonstrates the principle of how it works.

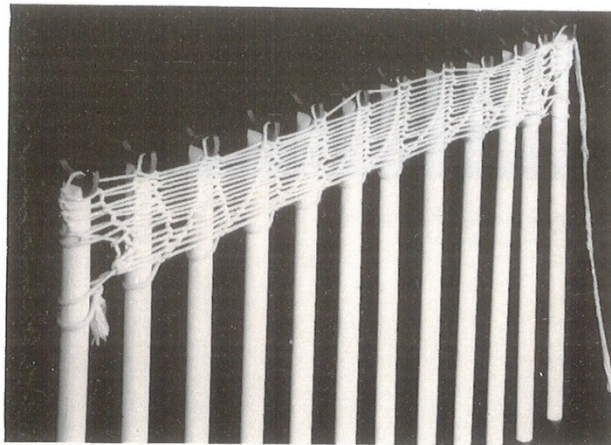


Fig. 1. Peg Frame

Lee's first machine was quite crude. One source quotes 8 needles to the inch which would produce very coarse fabric. Later modifications and more sophisticated manufacturing methods disguise the origins of the machine but, luckily, not its method of working.

There are many stories as to how this English country parson of the 16th century came to invent the knitting machine. These tend to revolve around a young woman he wished to marry whose preoccupation with hand knitting made him resolve to invent a machine to do the work. Alternative, but similar, tales tell of how he performed this feat to save his wife work, having been expelled from Cambridge University for marrying below his station. These stories are

commemorated in two rather fanciful paintings of Lee thinking of his machine fig.2 and presenting the first machine knit stocking to his wife fig.3 (both painted centuries after the supposed events).

How near the truth this is, is debatable. However, we do know that Lee was born in Calverton, Nottingham in about 1564. In 1586 he returned from Cambridge as a young curate to find his parishioners supplementing their income by hand knitting. For whatever reason Lee decided to try to mechanise this activity and, from the final design of the machine, it seems possible that he had some knowledge of peg frames, for his final product had much more relationship to these than to any domestic needle knitting.

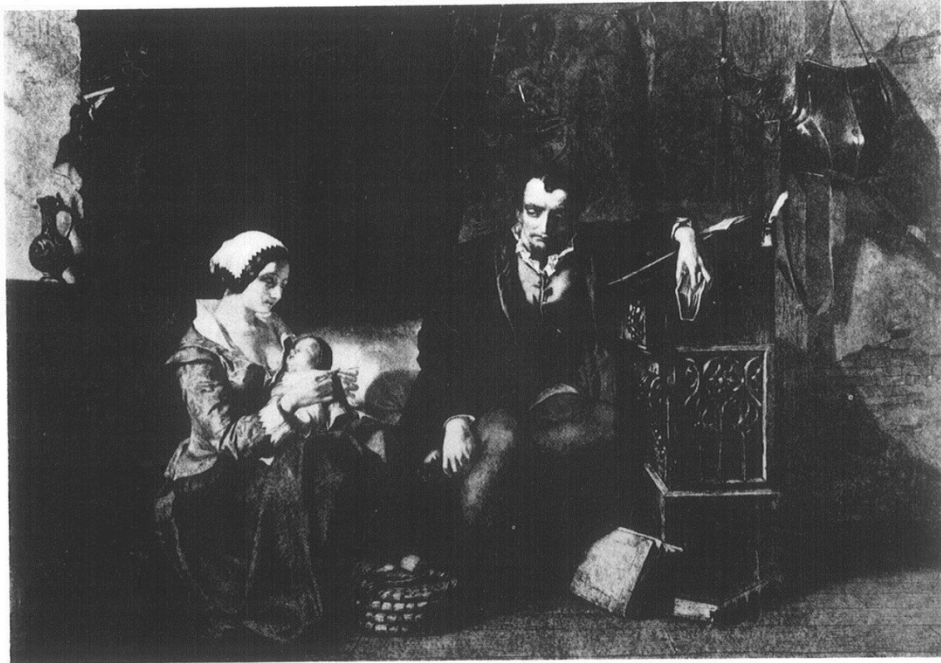


Fig. 2. Elmore's painting of William Lee "thinking" of his machine.

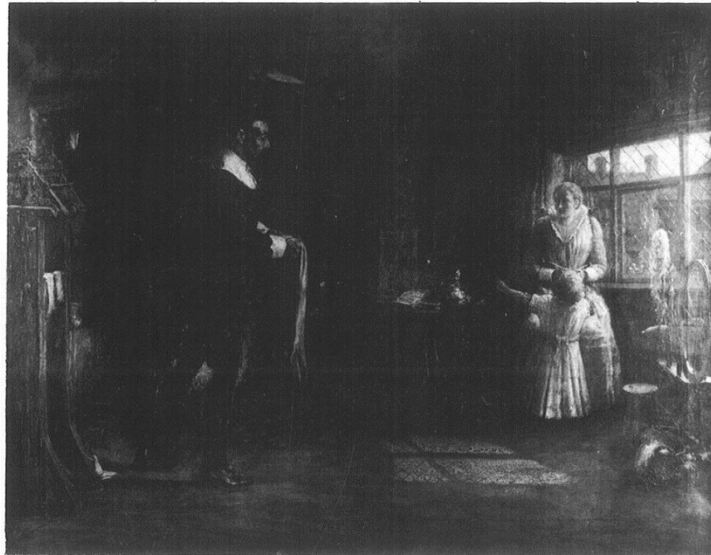


Fig. 3. The first frame made stocking.
Painting in Leicester Polytechnic

Much of Lee's inventiveness must have been taken up in devising a needle to replace the pegs of the peg frame so that the loops could be retained. He finally decided on the *bearded needle* shown in fig.4 This design enables loops to be held on the needle *hook* by pressing the end of the *beard* downwards into the *eye* so that the old loops can be cast off from the *shank* of the needle.

In the type of machine Lee designed, the needles are placed horizontally, fixed in the *needle bar*. Mounted vertically between each needle are specially shaped steel plates called *sinkers*. These form the thread into loops.

In Lee's original machine all these sinkers were lowered in series giving uneven loops and low quality fabric. This was improved in 1620 by Aston, described as a former apprentice of Lee. Aston arranged the sinkers in two sets: *Jack sinkers*, raised and lowered in series as in Lee's original machine and *Lead sinkers* moving together. The lead sinkers were placed alternately with the Jack and equalised loop length. After this improvement the plain hand frame did not change in any major way

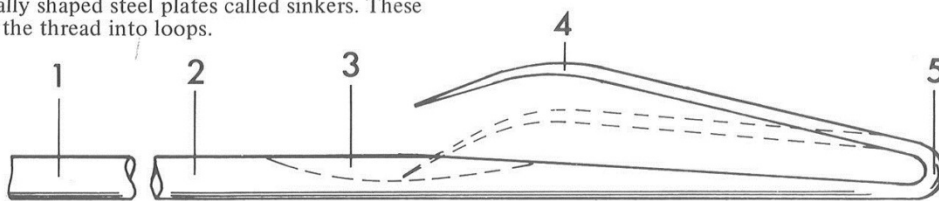


Fig. 4. Bearded needle

- | | |
|---------------|--|
| 1. The Shank. | This is the part of the needle that is located in the machine, usually set in lead. |
| 2. The Stem. | The new loop is formed around this. |
| 3. The Eye. | Milled in the stem of the needle into which the tip of the beard is pressed, as shown in broken lines. |
| 4. The Beard. | |
| 5. The Head. | The point at which the beard is turned and tempered. |

How the simple Hand Frame works

After Aston's improvements the basic design of the plain knit (as opposed to Strutt's 1758 rib machine) frame did not change, so what follows applies to most of the plain machines in the Museum's collections (e.g. fig.5 the 1820 machine).

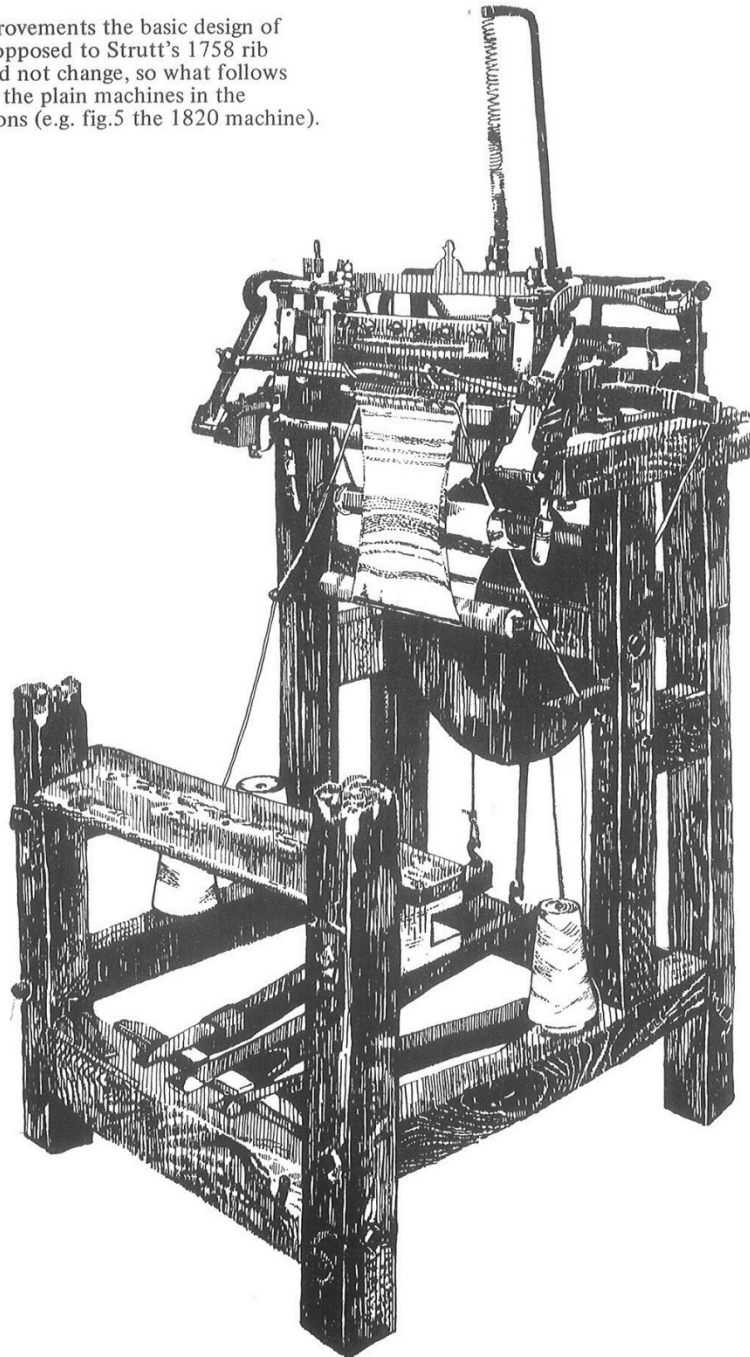


Fig. 5. 1820 Hand Frame

Rather than take up space with confusing written descriptions the production of one row of knitted loops is shown in diagrams starting with fig.6. Each diagram shows the part of the hand frame that produces the knitting i.e. the bearded needles and the sinkers. All operating mechanisms are left out to avoid confusion.

The process begins with previously knitted yarn hanging from the needles, just behind the sinkers and fresh yarn about to be introduced.

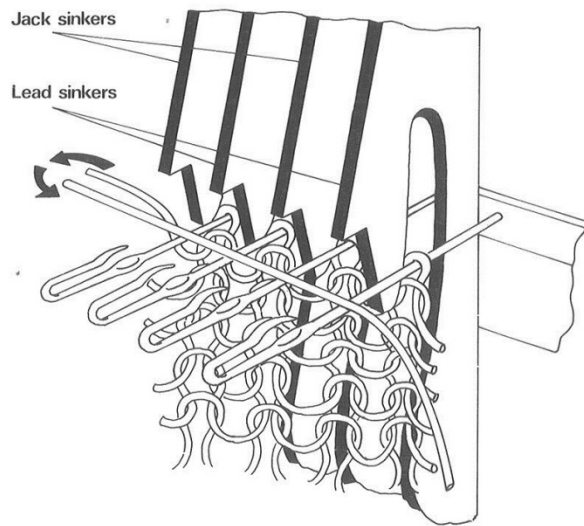


Fig. 6. The thread is laid on the needles

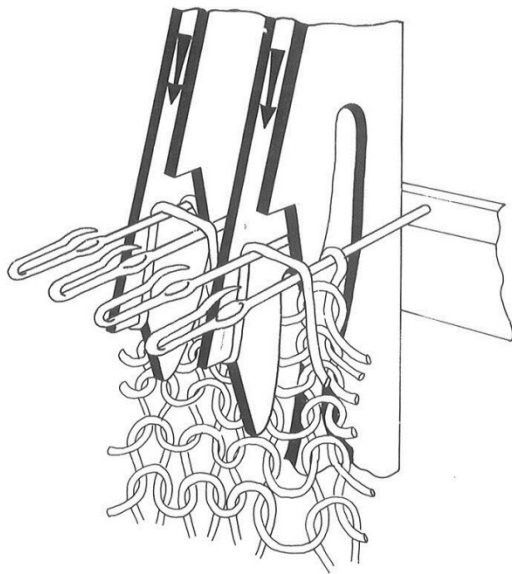


Fig. 7. The Jack Sinkers fall one by one to form loops

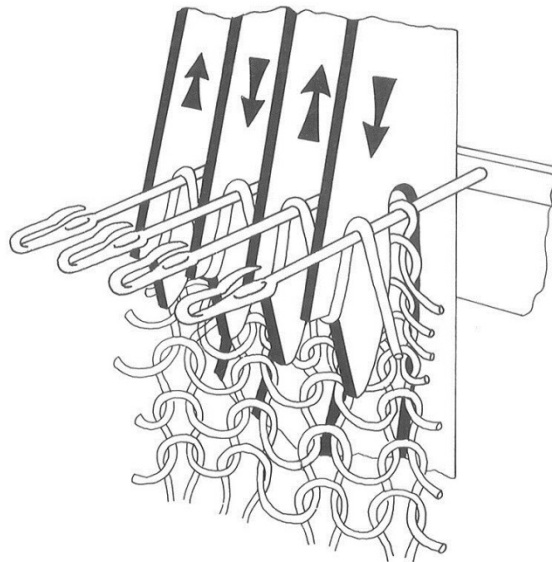


Fig. 8. The Lead Sinkers descend and the Jack Sinkers rise so as to divide and equalize the loops.

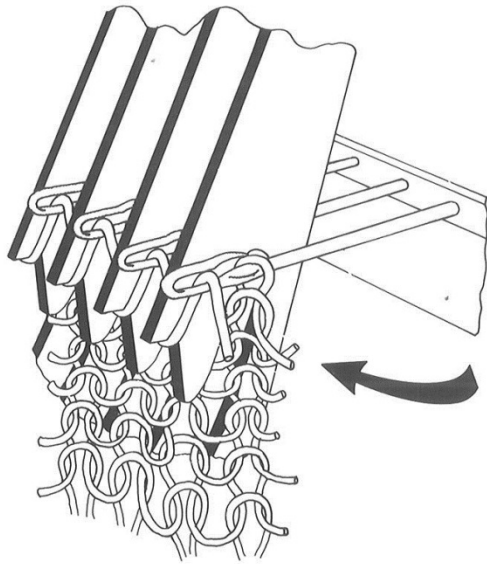


Fig. 9. The loops are brought forward under the beards

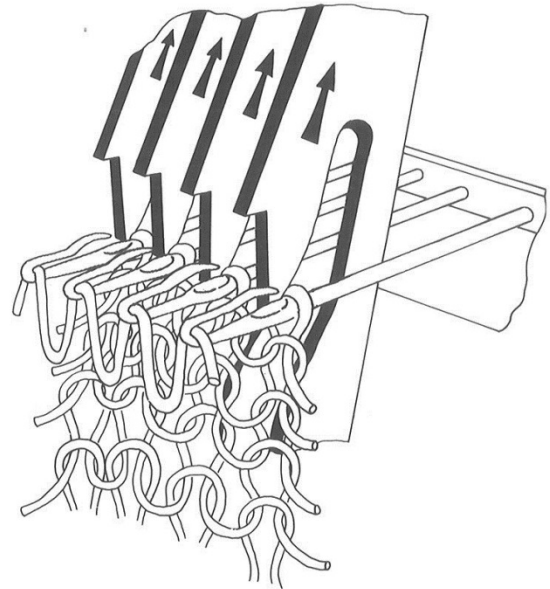


Fig. 10. The sinkers are then locked up

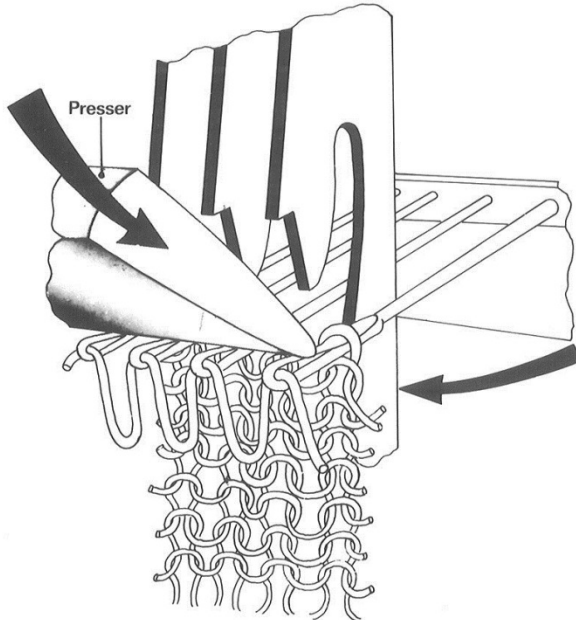


Fig. 11. The needles are closed by the presser and the previous loops are landed on the needles by the jacks

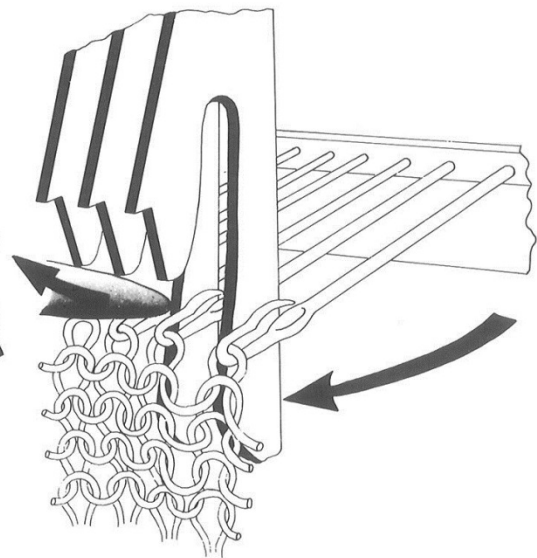
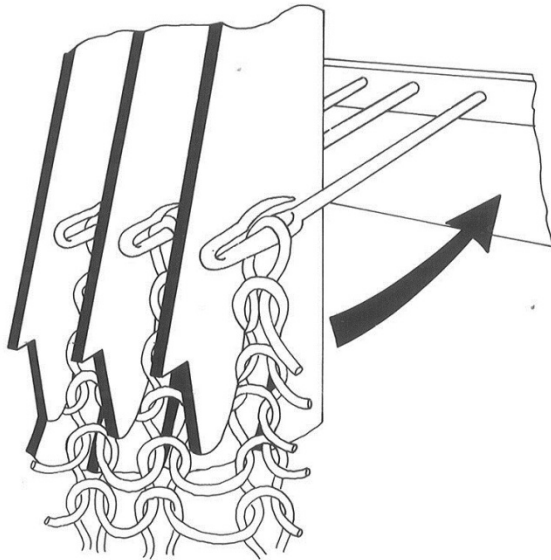


Fig. 12. The previous loops are knocked over the needles, leaving the fabric hanging from them.



This is the type of machine that was in use for several hundred years. It was not accepted at first, particularly in Lee's time, because it was feared it might cause unemployment and also for the much better reason that the quality of the early pre-Aston machines left something to be desired. Later machines were capable of much finer work and their use spread, first in a cottage industry system and later to full factory use.

In 1755 a more complex form of the hand frame, capable of producing rib fabric was invented by *Jedediah Strutt*, a Derby farmer. Strutt later became famous for his involvement in the spinning industry.

The Plain Hand Frame and the Rib Frame belong to a class called *Straight Bar Machines*. The term *Rotary Frame* refers to powered versions of these types of machine (fig. 14). These became common in the mid-nineteenth century culminating in the invention of the Cotton's Patent machine in 1864 (fig. 15). These developments are covered in the Knitting Gallery and other information sheets.

Fig. 13. The loops are returned to the original position ready to begin again.

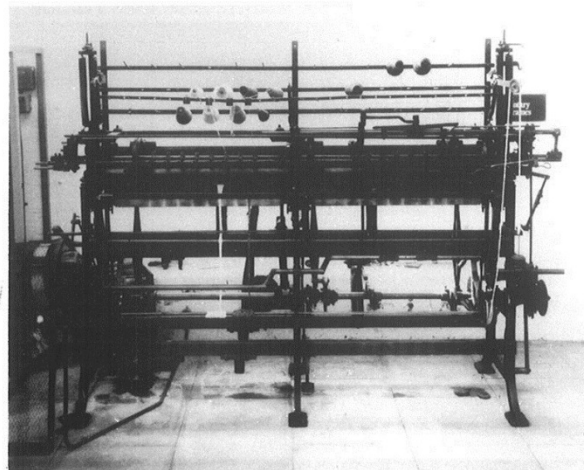


Fig. 14. Rotary Frame

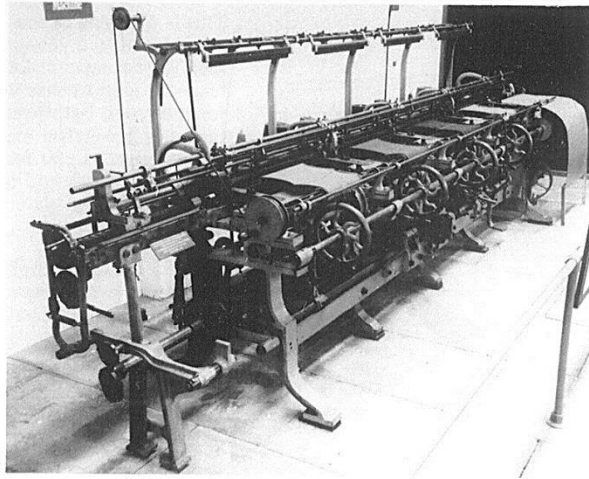


Fig. 15. Cotton's Patent Machine

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PURL AND PLAIN IN THE MIDLANDS

FRAMEWORK KNITTING AND ITS ANCIENT GUILD 28 By HELEN HARRIS

THOUGH of significance in the east Midlands it was elsewhere—in London and the Home Counties—that hosiery-knitting first developed. While stockings were fairly generally made from woven woollen cloth up to the 16th century, caps seem to have been the earliest knitted goods. The art of hand-knitting stockings was reputedly brought to England by an Italian merchant, in whose London house their making was seen by William Rider, a clothier, who learnt the process and introduced the product to members of the nobility. Silk stockings became popular among the rich and were worn by Elizabeth I, though the queen, conscious of the extravagances the new trade would cause and the potential ruin to the makers of cloth hose, accepted them only reluctantly, and was sensitive and secretive in wearing them.

During the second half of the 16th century hand-knitting further developed as the demand for silk stockings increased. Then, in 1589, the stocking frame was invented; a considerable mechanical advance for such an early date. The inventor was a clergyman, William Lee, Master of Arts of Cambridge University, from Calverton in Nottinghamshire. The story that Lee fell in love with a country girl but found on his courting visits that she had little time for him, being constantly pre-occupied with her knitting needles, is believed to be true. While watching her at work he had ideas for an apparatus which would perform the same process mechanically. He experimented, and eventually, after much trial and error, produced the first knitting machine.

Lee's invention, which enabled loops of yarn to be linked together rather than intertwined (as in weaving), was operated by hands and feet. It was mounted on a wooden frame—hence the term "framework knitting." Probably the most complex piece of equipment in industrial use before the 18th century, the intricate knitting frame was made up of 3,500 different components, the assembly of which became a trade in itself. Stockings were knitted flat, and seamed by hand.

Subsequent development, however, was slow. Lee sought patronage unsuccessfully in England and more hopefully in France, but died in Paris a poor man. But his followers persisted in England and by the mid 17th century the industry was firmly established. By 1664



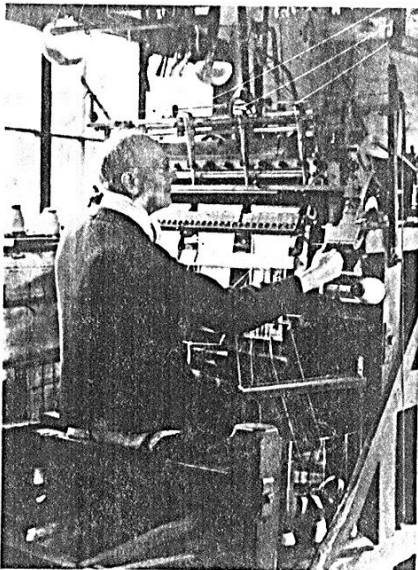
1—A FORMER KNITTERS' HOUSE AT WIGSTON, NEAR LEICESTER, SHOWING THE ALTERED BRICKWORK TO THE TOP, WHERE KNITTING WAS DONE. The frameshop behind the house was built for the knitters in the 1880s, and last used about 1914

650 frames were in use and around 1,200 people engaged in framework knitting—over half of them using silk. Manufacture was then still centred on London where, with Middlesex, there were 400–500 frames. A number were established in Hertfordshire and Buckinghamshire, a few in Surrey—at Godalming and Farnham—and at Odiham in Hampshire. In Nottinghamshire there were 100 frames, in Leicester 50. The knitting frame had also been introduced into Ireland, with about 10 working in Dublin.

In the late 17th century the hosiery industry in the east Midlands steadily increased,

and in the 18th century rapidly expanded as London manufacturers, taking advantage of cheaper labour, moved their frames to Nottinghamshire, Leicestershire and Derbyshire; generally cotton, wool and silk formed the respective yarns used in the three counties. In 1758 an improvement to the knitting frame by Jedediah Strutt enabled better-fitting ribbed stockings to be made, and later came modifications for making mittens and gloves.

At this time the industry was entirely domestic, and survived as such until the mid 19th century, when the technical difficulties of applying steam power to the complicated



2 and 3—KNITTER AT WORK IN THE 1920s. (Right) WORK IN PROGRESS IN A FRAMEWORK KNITTING SHOP, ABOUT 1900. Both photographs were probably taken in Leicester

ry were overcome. A worker would frame from a local master, and install the back or front room of his cottage. It would be operated not only by him and other family members including the children. As work increased, and for the fetching and carrying of yarn and finished work, it became common for people to work together in a "framework" which might be an enlarged downstairs room, an attic, or a separate building close to the house. Because maximum space was needed for the work, windows in buildings were often enlarged, and in some cases characteristically sizeable ones. Conditions in the workshops, in some cases many frames as possible were used, were generally tight, and though heating was provided, ventilation was inadequate.

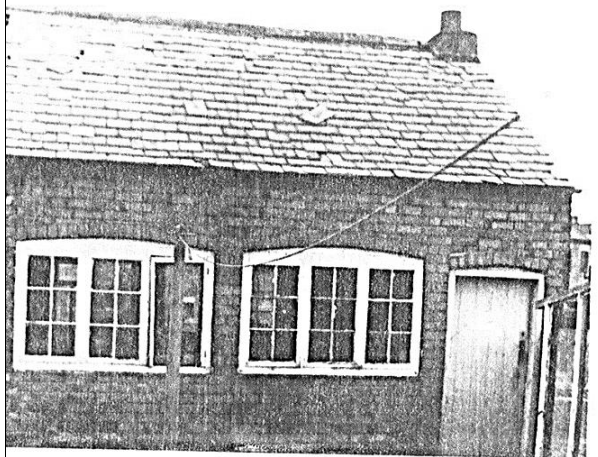
erous buildings exist in the east of England, though such relics are diminishing through demolition and redevelopment. Many display no clues to their former use, but in some cases it is possible to find old buildings bearing evidence of adaptation, with windows replaced by larger later ones. In Nottinghamshire presents various examples. Calverton—Lee's village—is particularly rich, with several traditional cottages with enlarged windows some of them being commendably so. At Ruddington restoration of former premises is part of a museum project. In Bonington there is a particularly fine house, dating from the 1660s, which



4—HOUSE AT SUTTON BONINGTON, NOTTINGHAMSHIRE. ONE OF THE OLDEST HOUSES IN THE MIDLANDS TO HAVE BEEN ADAPTED FOR FRAMEWORK KNITTING. "The brickwork on the front indicates where windows have been enlarged"



5—FRAMES' COTTAGES AT CALVERTON, NOTTINGHAMSHIRE.
6—FRAMESHOP AT SHEPshed, LEICESTERSHIRE



has elongated windows on the ground floor, and enlarged ones also on the floor above where differing brickwork is seen.

Leicestershire examples are mainly in the west of the county. At Shepshed, formerly an important centre of hosiery manufacture, with 1,200 frames in 1844 (and where the modernised industry continues), a well-preserved brick-and-timber thatched cottage displays many-paned windows interrupting vertical timbers of the earlier construction. Shepshed has also many former frameshops, some of them quite small buildings in back gardens, others larger and now serving different industrial purposes. At Wigston, near Leicester—still surviving amid demolition—is a two-storey house formerly occupied by a master framework-knitter, though it bears significant marks of alteration. Differing brickwork shows that the top storey was an addition to the house and also suggests that one window at least was formerly larger, indicating a likely attic workroom. Further workspace was provided by extensions at the rear, and in a yard behind the house stands a two-floored frameshop, with typical continuous windows, which was built in the early 1880s and used for glove making up to 1914.

London was still the industry's main centre when the Worshipful Company of Framework Knitters was founded, and its connection with the City has continued despite the Midland migration. The Company has had two Charters. The first, dated 1657, was one of very few granted by Cromwell and applied only to framework knitters in the City of London; the second, granted in 1663 by Charles II, extended the guild's powers throughout England and Wales. "Searchers" were empowered to go on tours of inspection, destroying with shears any bad work and fining the manufacturers concerned.

This early protection of the trade and of customers, and the spirit of mutual help the Company fostered, conferred lasting benefit on the industry. Becoming wealthy from gifts and legacies the Company established a fine hall in Red-cross Street and had its own Master's coach and gilded barge, each with liveried servants. It acquired gold and silver plate and a coat of arms, which depicts a stocking frame, minus its woodwork, with knitting divided at the heel, supported by a Cambridge-habited clergyman and a woman in 1665 costume, with the motto: "Speed, strength and truth united".

By the early 1900s, with maintenance of its charities being a principal surviving concern, the Company transferred its facilities from Shoreditch to Leicestershire, where they could better serve the needs of retired hosiery workers. A four-acre site was obtained at Oadby, and in 1907 London's Lord Mayor laid the foundation stone of the cottage homes. Standing in well-kept grounds these pleasant bungalows can accommodate 46 people, both men and women. Besides its charities the Company annually awards medals to hosiery students in the examinations of the City and Guilds of London Institute.

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