# Hand-Loom Weaving in Hamilton & District

Cover — "A Stonehouse Weaver c. 1900, photo by A. H. Allan"

# HAMILTON DISTRICT MUSEUM

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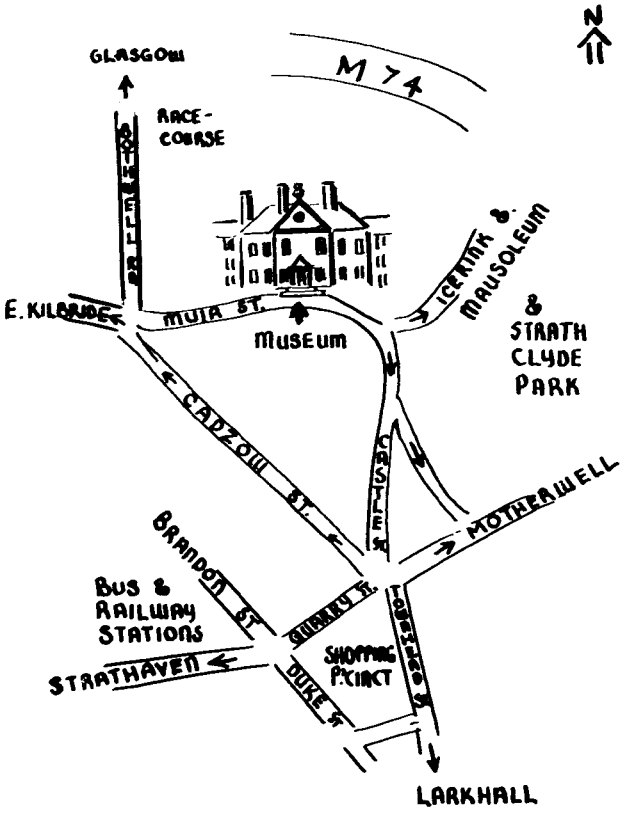
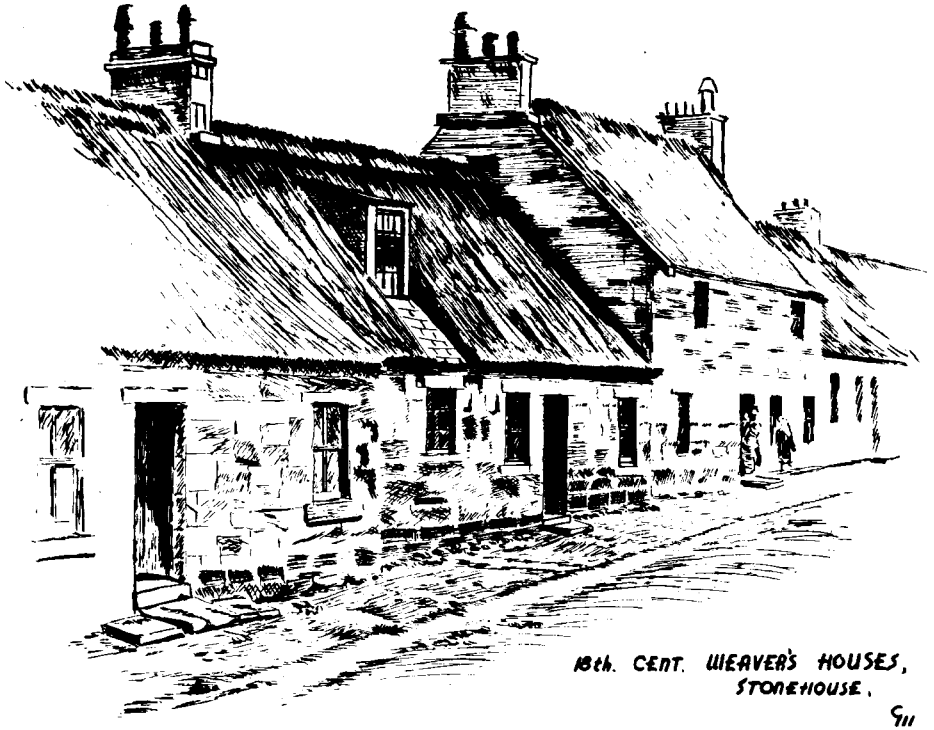
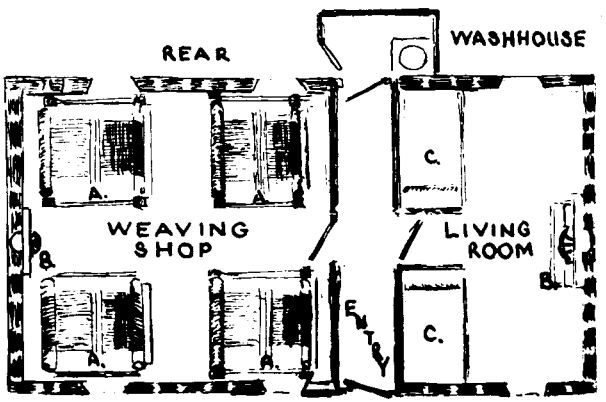




18th. CENT. WEAVER'S HOUSES, STONEHOUSE.




GROUND FLOOR PLAN OF A WEAVER'S COTTAGE
A.:- LOOMS, B:- FIREPLACES C.:- BED RECESSES.

# Hand-Loom Weaving in Hamilton & District

Edited by C. Smith A.L.A.

Written and illustrated by G. Walker

# Museum Publications

Hamilton Burgh Museum, out of print
Lace-Making in Hamilton, by Jessie H. Lochhead, M.A.
Horse Drawn Vehicles in Hamilton Museum by G. Walker
Hand Loom Weaving in Hamilton and District by G. Walker

Also on sale is the Hamilton Burgh Quincentenary publication
"Hamilton 1475-1975"

Published by Hamilton District
Libraries and Museum dept.
Chief Librarian C. Smith A.L.A.

*"The art of weaving is renouned so*
*that rich or poor without it cannot go"*
*Inscription on the Weaver's stone at*
*Hamilton District Museum*

WEAVING has existed as a craft ever since the first settled communities. In Scotland, references in the early Burgh Charters e.g. Stirling 1226 and Glasgow 1175, prove that the weavers were an established part of the community, strong enough to influence the terms of these charters and even the Laws of the Kingdom, for instance the Burgh Laws written possibly in the reign of David I (1124-1153) prohibited anyone but a burgess from making cloth or dyeing it. Then in 1473 the importation of cloth from England was forbidden in order to help Scottish weavers and, to ensure that standards were kept up, a law was passed by the Scottish Parliament in 1540 enacting that a qualified man be appointed in every Burgh to examine and mark all cloth.

Only Burghs were allowed to hold markets and the first charter granted to Hamilton in 1475 by Lord James Hamilton gave this privilege. The Trades were not specified but a later charter given by Mary, Queen of Scots in 1548 was more explicit and "linen, wool and wool workers" were included. However from the weaving point of view the significant part of the earlier document is the provision of a "common green" where animals were not allowed to pasture. This green could only have been for the bleaching of linen and two hundred years later in 1695 when Duchess Anne took over the area it was called on the new charter the "old bleaching green".

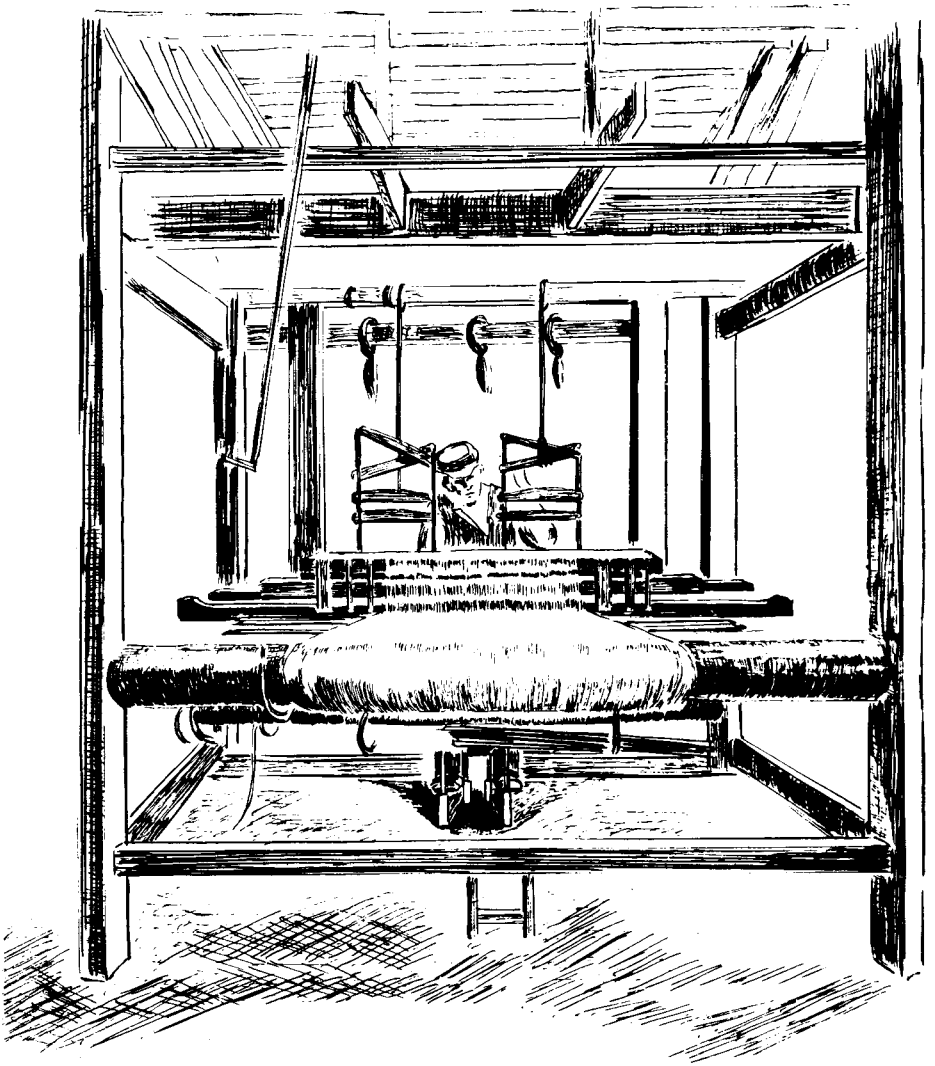
Markets in the early days of the Burghs were open booths and a substantial part of the towns income came from the tolls and charges made there. Growers and craftsmen alike had to bring their wares to be sold, and anyone caught selling or buying outside the market was fined. The magistrates or their representative as well as checking the weights and measures of foods etc. checked that all the laws passed by Parliament and the Convention of Royal Burghs regarding cloth were enforced. For instance the nap of a fabric had not to be raised to make it seem thicker, "good dornicks linen for table or bed" had to be two ells wide and yarn was checked for length on a skeleton wheel with a diameter of 90". Once around this wheel was called a thread, there being 120 threads to a haer and 6 haers to a hesp or skein.

During the reign of Charles I the Burghs were encouraged to set up manufactures and in 1641 a Royal Commission recommended that a

school for training boys in the working of cloth and in the spinning, dressing and dyeing of yarns should be set up in one burgh of every shire. Each parish in the shires had to send at least one boy to the school. Weavers had for years been exempt from military service and this was ratified during the reign of Charles and later during the Cromwellian period. Cromwell also encouraged manufacturing, and woollen factories were started in Haddington, Edinburgh and Ayr, and in 1681 in Glasgow. It was about this time too that Duchess Anne of Hamilton established a woollen factory in Hamilton together with a spinning school for girls.

The Duke and Duchess had also, as explained in Dr Rosalind Marshall's book *"The Days of Duchess Anne"*, commenced their long term plan or design for the rebuilding of the Palace and layout of the policies. This design or policy was followed in practice, if not in every detail, by succeeding Dukes. By 1835 the Palace Grounds were enclosed to the West and South from Bothwell Bridge by a wall which followed the line of Bothwell Rd., Muir St., Castle St. and Edinburgh Rd. to Clyde Bridge. The boundary to the North and East was the River Clyde. On the instructions of Duchess Anne a plan for the complete remodelling of the area round the Palace was drawn up in 1708 by a Mr. Alexander Edward. A copy of this can be seen in the Hamilton District Reference Library or at the Museum.

This project meant that the fertile Nethertoun became gardens or was let out for cropping and grazing and that the buildings and tenements of the Netherton Wynd, High St., Old Edinburgh Rd. and Barries Close had to be demolished. It also meant that the "Bleaching Green" had to be transferred in 1695 to the area adjoining the Municipal Buildings; the building of a new school in Grammar School Square in 1715; and of a new Parish Church in 1734 in Church St. Then in the final phase of the plan in 1835, the Hamilton Arms Inn (now the Museum) became the Hamilton and Kinneil Estates Office. The new area allotted for a bleaching green was traversed by the Cadzow Burn and water was an essential element in the bleaching process. The linen was spread on the grass, soused several times per day, turned and shifted till after several months it was whitened. Or it could be dipped in sour milk mixed with water, then water alone and the process repeated. The use of lime or lime and doves dung (known as hen pen) had long been forbidden by successive Acts of Parliament. However much of the linen was sent for bleaching to Holland where the use of chemicals was was not forbidden.



**Handloom for weaving Plain and Twilled Linen.**

Among the Acts passed by the Scottish Parliament during the latter part of the 17th Century for the encouragement or regimenting of the linen trade the one which caused the most controversy and resentment was the "Dead Clothes Act" of 1686. Briefly it stated that all dead persons should be buried wrapped in sheets or shirts made of Scottish linen or hards, and the minister or elder present at the coffining had to sign a declaration to this effect. However owing to the difficulties encountered in enforcing the Act it fell into disuse and was repealed in 1707. "Hards" or haran is a coarse plain linen and an 18th century shirt or smock made of it can be seen in the Museum.

The manufactory set up by the Duchess Anne of Hamilton was eventually handed over to the Town, and the inventory of the Looms and utensils makes very interesting and informative reading. The inventory dated 1705 is in the Hamilton Burgh Papers and a study of it together with a companion account of the materials in stock reveal that the Hamilton Weavers were in the forefront of weaving techniques. For example Wm. Thomson tells us in his book on the Dunfermline Weavers that they managed by subterfuge to get the secrets of the Damask Loom in 1719, whilst the Hamilton men had twelve of these looms working on or before 1705.

Damask is a table linen with a wavy figured pattern and included in the twelve looms on the inventory is one "with fine tables" presumably for extra fine work. Three "Camlet" Looms are also listed, Camlet is described in the Oxford dictionary as a light cloth of various materials for cloaks etc. "originally of camel's hair and silk". A box of silk bobbins is listed in the stock of the warehouse so it is possible that this fabric did contain a percentage of silk. Also listed are three "Jemin" looms for working wool valued at six to fourteen pounds each and two "Broadcloth" looms at fifty pounds each.

The inventory was of the "Work-looms, Utensils, etc. in and about the Manufactory Houses in Hamilton" and is very detailed even down to "2 mousetraps" in the Warping room. There was a warehouse with spare utensils, a Wool Garret with combing and scribbling benches, scribbling being the teasing out of wool. The Weaving Shop and Garret whose looms are valued from six to twenty four pounds depending on condition also contained 8 Pirn Wheels at twenty shillings each. There was a Wosted (worsted) room, a warping room with a warping mill and fourteen weavers' candlesticks at four shillings each. An example of a weaver's candlestick can be seen in the Museum.

The Broadloom shop had, as well as the two broadlooms, sundry wheels and frames, the twisting room had it's twisting mill and the

Combing and Scouring shop had, in addition to Combing benches and combs, two tubs and a scouring wringer. The value of the whole excluding buildings was seven hundred and twenty three pounds, a considerable investment when the valuation roll of the Burgh only amounted to two thousand pounds Scots, in 1705.

A works inventory can often tell more of the operations and technology of an industry than a report can, but unaccompanied by drawings or plans it does not give the whole picture. The possession of a warping mill and a wringer by the end of the seventeenth century proves that, thanks to Duchess Anne, the works had all the latest appliances. From descriptions of similar apparatus we know how early warping mills and wringers worked, but what was the purpose of the "twisting mill" was this an early spinning apparatus? The entry reads "The Twisting Mill with bobbins 5 Wheells with a little baulk and drotch and 4 Swifts valued to £14-0-0." "Swifts" are yarn winders and a "drotch" is a pendulum, but apart from that the entry does not give any indication of the machine's function. The Duchess was a forward looking practical person, her purchase of a "mangle" eighty years before it was recorded elsewhere proves that. But whether or not she had purchased or had artisans construct a spinning mill we can only conjecture.

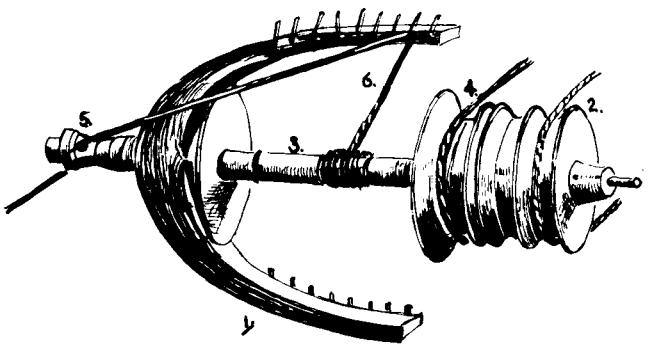
The pirn wheels listed in the inventory of the weaving shop would be of the hand rotated type, illustrated on page 13 and would be used to wind on bobbins the yarns and threads spun by the women and girls.

The spinning of fibres of varying lengths into a continuous yarn was originally done by women who held under their arm a rod with a roll of washed and combed wool or flax loosely tied to it. Strands pulled from the roll, were twisted and attached to the top of a spindle which was spun in the fingers and allowed to drop. As it fell more strands were fed into the yarn which was being spun by the action of the spindle, the yarn was then wound on the spindle and the process repeated. The rotation of the spindle was assisted by a heavy ring mounted on the base, this was called a spindle whorl and locally found stone specimens can be seen in the Museum.

It was traditionally women's work and skilled spinsters, as they were called, could do other household tasks in between or whilst they were spinning. This is the derivation of the word now used for an unmarried female and similarly the word "distaff" which was the rod with the wool attached, is used to denote the female branch of a family.

It is impossible to say where spinning wheels were first used but they have been in Britain since the 14th century. A horizontally mounted spindle driven by a hand rotated wheel was used on the early wheels, e.g. the "muckle" wheel of Scotland and the "long" wheel of Ireland. They were only suitable however for spinning wool and the yarn had to be wound onto the spindle by hand.

Leonardo da Vinci, the artist and inventor, was the first person known to have designed an improvement to this process, his drawing of it still survives but no working model was ever made from it as far as is known. The principle of it was that the fibres to be spun passed through a hole in a horizontally mounted spindle or axle and from there to the tip of a "U" shaped flyer mounted on it. Fitted on the axle was an independently revolving bobbin and pulley, this pulley was made larger than one fitted on the axle so that the bobbin rotated at a slower speed. This allowed the bobbin to wind the newly spun thread from the fast revolving flyer.




1. FLYER
2. FLYER PULLEY
3. BOBBIN
4. BOBBIN PULLEY
5. EYELET
6. SPUN YARN

JURGEN'S FLYER AND BOBBIN MECHANISM.

This principle was used by a German wood carver called Johann Jurgen who constructed in 1530 the first working model of a spinning wheel with a flyer and a bobbin. This type of wheel was introduced to Scotland, probably from Ireland, in mid 17th Century and the Scottish and Orkney wheels illustrated are of this type.

The companion document is entitled "Accompt of the Town of Hamilton's share of the wool and goods yt falls to them at the Divydeing of ye Manufactory goods". Two lots numbered 11 and 13 are detailed, with the amount sold, the prices obtained and the stock left. Various coloured and white damasks are quoted at prices per ell of seventeen to twenty two shillings, Jemin coloured and sad (neutral) at ten to twelve shillings and black broadcloth at four pounds. Superfine woollen cloth is quoted at thirty three shillings per lb. and twenty four shillings per lb. for a 169 lb. bale and a fabric called black ruffle or russel is valued at thirty shillings per ell. Whilst the fine cloth for cloaks etc. called Camlet or Camblett is valued at twenty four shillings for sad and thirty for "sky" (presumed to be light blue). The town's share at valuation was one thousand and seventy six pounds and six hundred and forty pounds was realised at a roup or sale. The remainder was sold later at reduced prices. The lots numbered 11 and 13 were obviously only a portion of the weaving warehouse stock, there is no raw wool or flax listed and the Duchess obviously kept a large proportion of finished goods for her households at Hamilton Palace and at Kinneil.

The detailed summary which has been given of the various types of loom and of the materials made in Hamilton has been quoted to illustrate the versatility of the weavers and also the extent of the industry. As her Grace Duchess Anne of Hamilton gifted all of the houses, looms etc. to the town in 1706, the Hamilton weavers were favourably placed for the boom in the linen trade which followed the Treaty of Union with England in 1707.

Scotland was then allowed to export to the Colonies and to England, and as Scottish linen was of superior quality to Irish or German it was much in demand. In a book on the "Linen Trade" by Mr Warden it was quoted that Scotland made 1,500,000 yds. of linen in 1710, and that as much as £200,000 worth of linen was exported to England in 1720. In this same year of 1720 a Burgess List, which is on display in the Museum, has some 35 weavers out of a total of 190 names. The weavers are by far the largest group having almost double the number of shoemakers, who are the next largest with 19.

This unprecedented demand for linen caused some weavers to contravene the regulations against bleaching with lime etc. and new

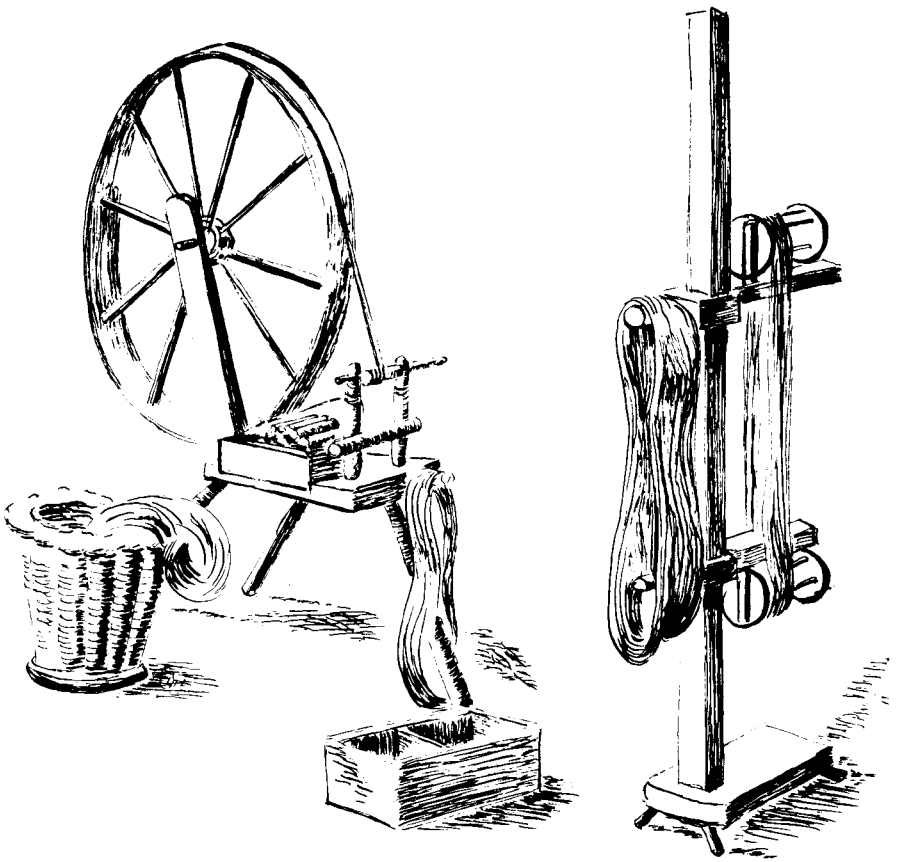
and stricter laws against this were passed in the 1720s. However the Government also tried to encourage industry and in 1727 the Board of Trustees for the Encouragement of the Fisheries and Manufactories of Scotland was set up. The awards they offered for improvements were of some assistance to the linen trade as a new loom called a diapre loom was invented in the 1730s by a Richard Holden who lived near Edinburgh. This loom could be worked by a weaver on his own without the use of a drawboy, which was a great improvement. Another even greater innovation was the fly-shuttle invented by John Kay in 1733.

Handloom weavers were generally their own masters and that, allied to the nature of their employment, made them thoughtful and independent men. However they had always joined together in the interests of their craft and when trade was prosperous and stable it is not surprising that they tried to help their less fortunate brethren. The Weavers were among the first, if not actually the first, to form "Friendly Societies" to help their fellow craft members or their widows who were in want. The Paisley Weavers in 1702 were the first in Scotland to form a Society followed by Dunfermline about six years later, by Hamilton in 1728, and by Strathaven in 1736.

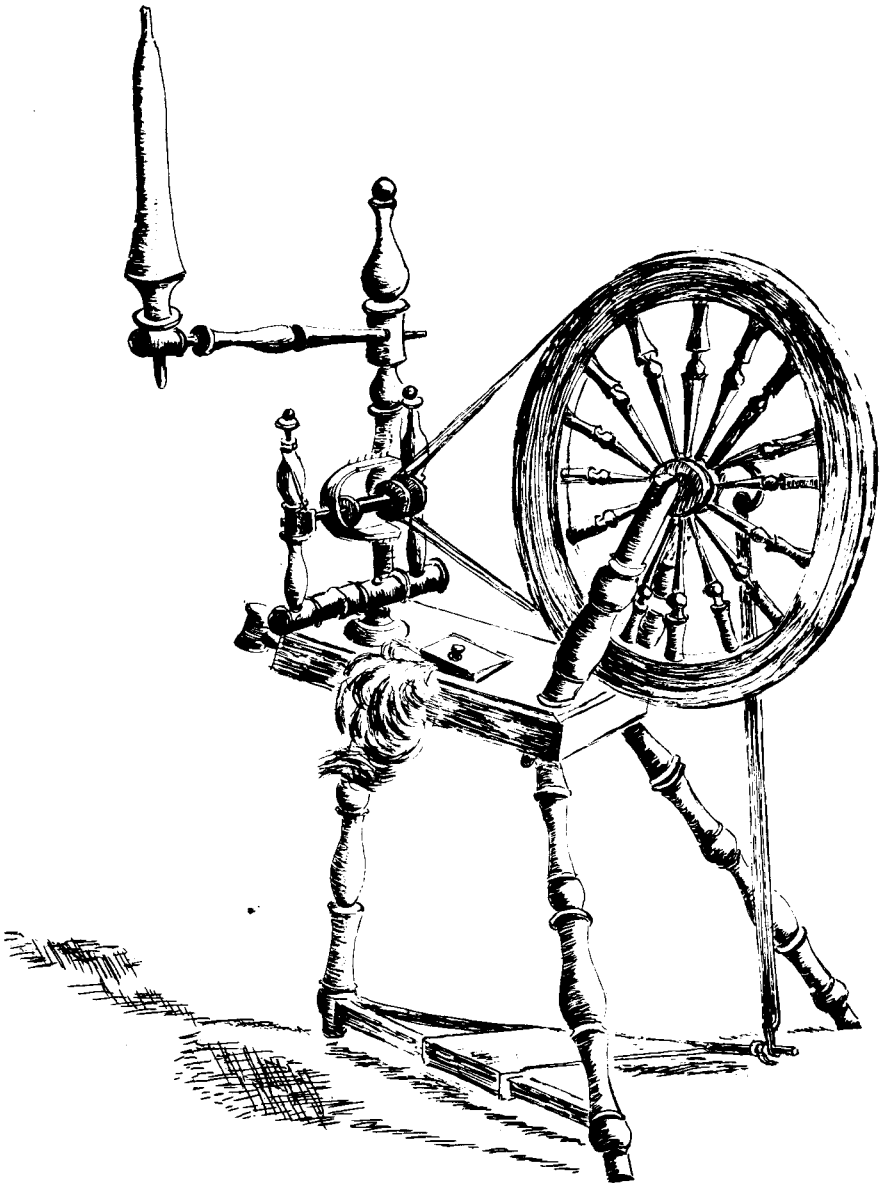
The Society in Hamilton was in existence for almost 120 years until 1845 and during all of those years it seems to have been carefully and prudently managed by the elected officebearers. To begin with the members' contributions, 3d per quarter, were to be augmented by the profits from the "twining mill" from the manufactory gifted to the Society from the Town Council. This twining or twisting mill seems to have been in rather poor condition because in the same year of 1728 the Society had to pay John Hamilton, wright, the sum of four pounds, two shillings and eight pence sterling to make a new mill. At the same time the Society had a box costing fifteen shillings made for their treasurer, and a minute book costing six shillings was purchased also.

The Society generally adhered to their original aim of looking after their own but during times of great deprivation and want like 1740/42 and 1772/73 and also around the turn of the century they joined with other Societies to purchase and bring in meal for the relief of all the townspeople.

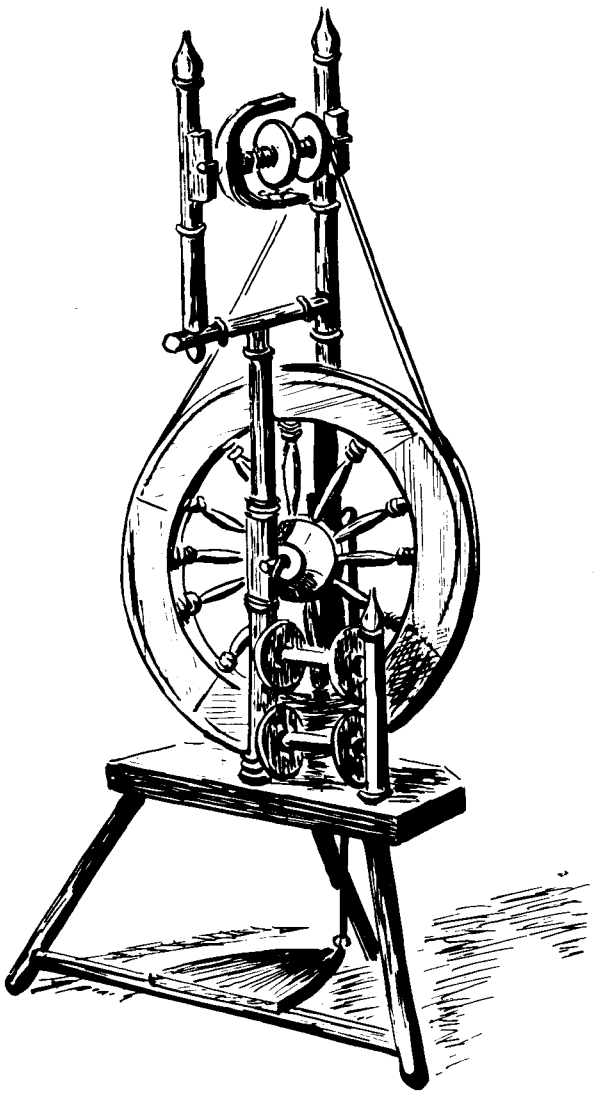
Apart from bad harvests the principal cause of the scarcity of food was the Corn Laws which were passed to protect the land owning aristocracy by putting high tariffs on imported food. The weavers



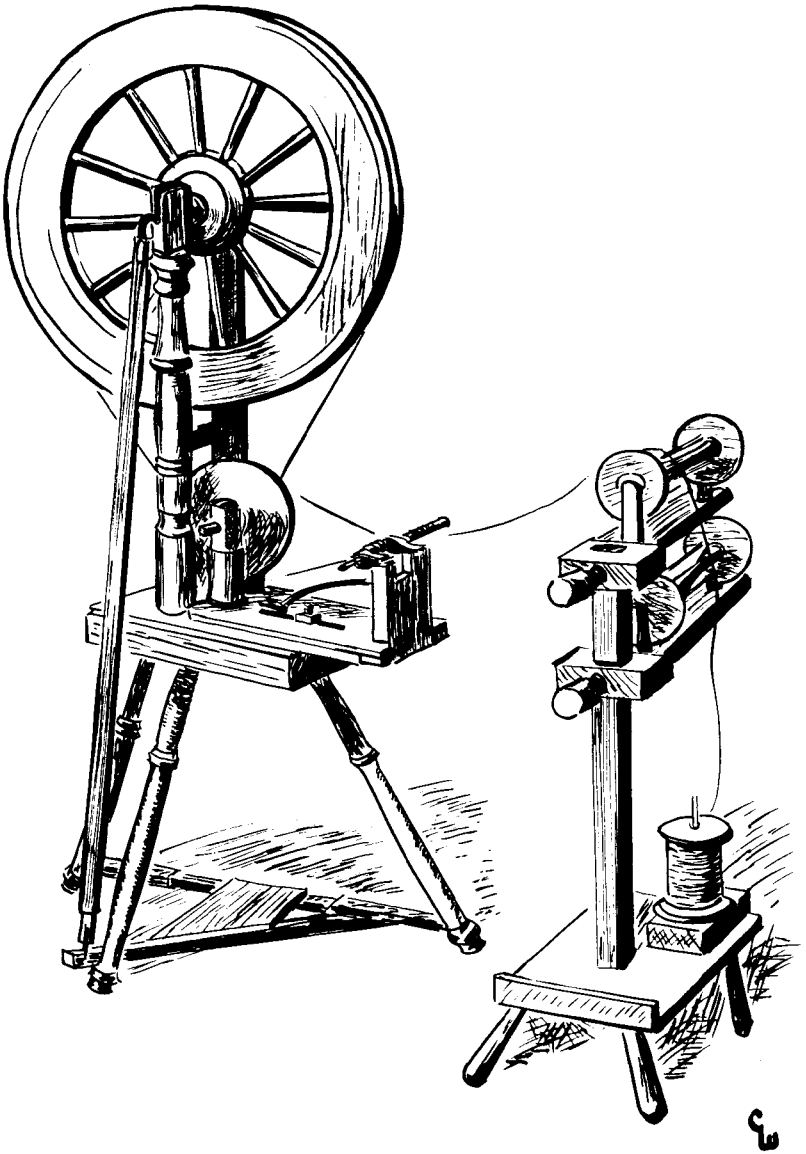
**Pirn Wheel and Whisks, 18th & 19th cent.**



Scottish pattern Spinning Wheel, 18th & 19th cent., Hamilton Museum.



**Orkney pattern Spinning Wheel 18th-20th cent., Hamilton Museum.**



Pirn Wheel, 19th cent., Hamilton Museum Photograph.

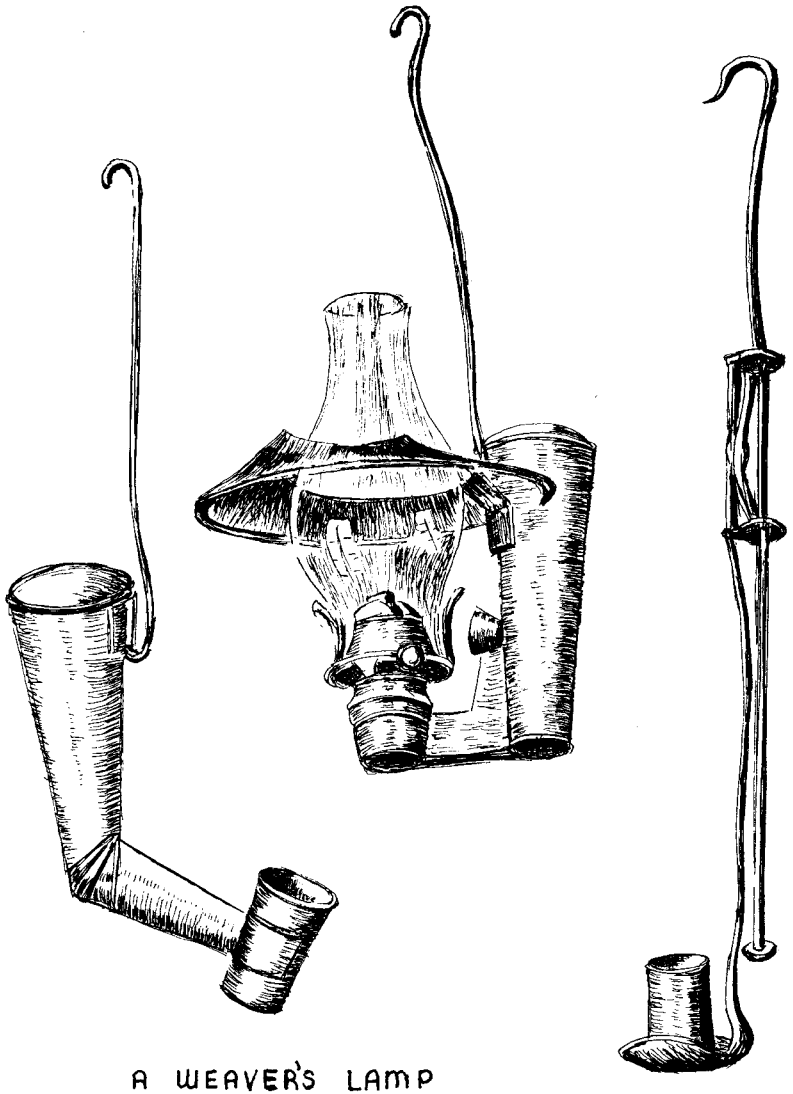
voted £6 in 1774 to help in employing counsel in Parliament to oppose the law and similar action was taken on other occasions with petitions drawn up by the Town Council and other Friendly Societies without much success. When times were good the Weavers had money to invest and the Society loaned it out on bills at 4½ to 5 per cent. They also purchased a tenement in the Townhead of Hamilton. As far as can be ascertained the tenement stood where the Regal Cinema now stands, and the carved Weaver's Stone from it is now at the Museum. Though whether the stone came from their first premises, a sub-division of David Marshall's property in the High St. cannot be ascertained.

A Reference to the maintenance of the Bleaching Green appeared in the minutes of Hamilton Town Council in 1734 when the Treasurer was instructed to have a stone dyke built around the head of the green to keep out the animals. Two passageways with gates, one for horse traffic and the other for pedestrians carrying cloth, had also to be constructed. This was done at a cost of sixty one pounds and this included the cost of a windlass, which presumably was for winding up from the burn the copious amounts of water needed in the bleaching process.

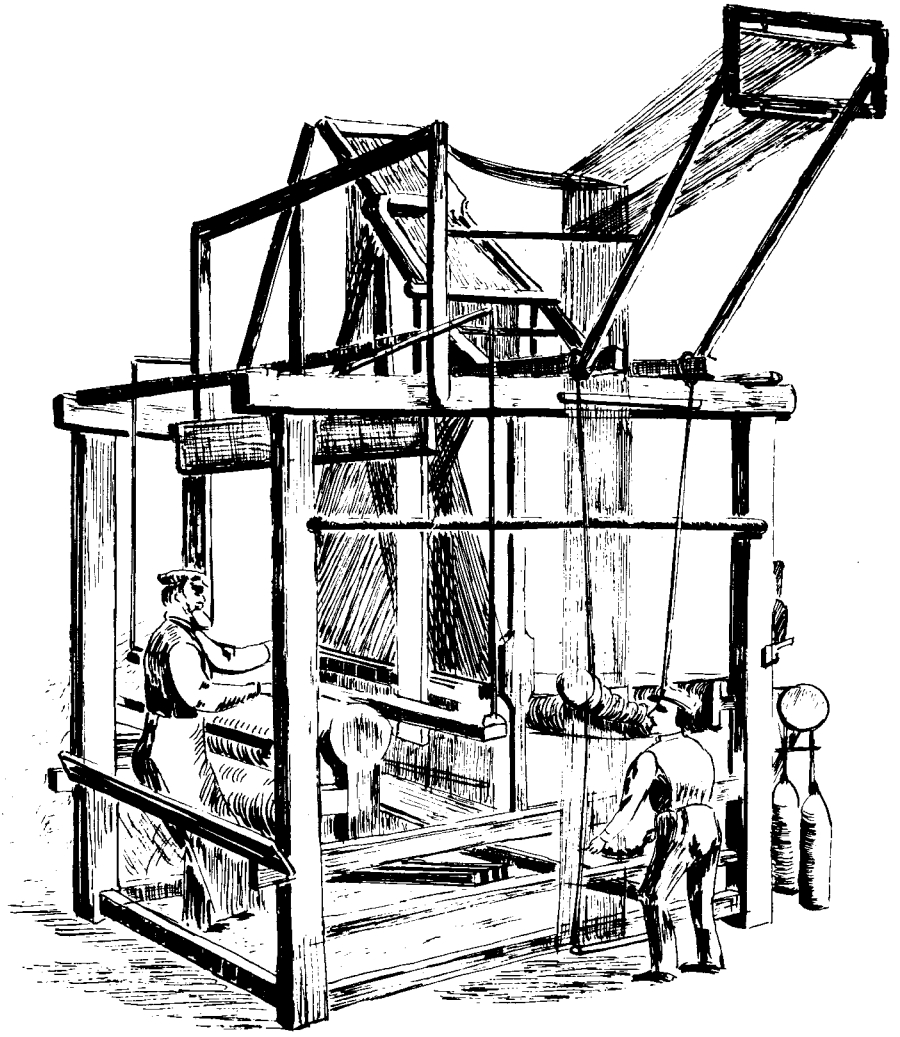
The dyke however couldn't have been very well built for by 1767 it was minuted that the Treasurer was instructed to have the green enclosed with a ditch and thorn hedge. In order to make hedge barriers as high as possible the procedure at this time was to dig a boundary ditch and on the inner side plant the hedge on top of the excavated earth. This method was widely used for the enclosure of farms, a social and agricultural process of change which was just beginning in this area. It was however a bad practice horticulturally as it meant the young plants were planted in sub-soil from the bottom of the trench. When the moisture drained away from the bank of earth most of the young hedges withered and died and had to be replanted. The Bleaching Green hedge was not an exception and by 1769 part of it was being replanted.

*1. The first recorded farm enclosure in the area was that of Aireybog and Cornhills in 1768 (diary of John Burrel, Chamberlain, Hamilton Estates).*

Raw cotton had been imported into Britain since Tudor times and spun and woven into calicoes in Lancashire but the yarn they produced there was of coarse quality unsuitable for anything else. Fine cottons like muslins and printed cotton did not become known in Britain until the East India Co. imported them as finished goods in



A WEAVER'S LAMP
AND CANDLESTICKS



**Damask Handloom as used before the introduction of the Jacquard Machine, the assistance of a drawboy was required with this loom.**

the seventeenth century. The quality of these materials, particularly of the muslin, was a challenge to Scottish weavers and around 1780 a Blantyre weaver James Monteith managed to obtain some Indian "birds nest yarn" from which he made the first web of muslin to be woven in Scotland. As it was so successful he wove another which he presented to Queen Charlotte. Cotton Spinning Mills were built at Blantyre, New Lanark and at other places in Lanarkshire and Renfrewshire but it wasn't until the spinning mule, invented by Samuel Crompton in 1779, was brought into use that a suitable thread for the production of home muslin was available.

Now that fine cotton yarn was to be had in quantity, more and more weavers in the West of Scotland changed over from fine cambric to muslin. Weaving was the principal manufacturing industry in Paisley, Glasgow, Renfrewshire and Lanarkshire and many formerly small villages became thriving weaving communities. According to the Statistical Accounts of 1791/2 Larkhall was such a village. In Hamilton and in the surrounding district the trade was taken up with enthusiasm. Streets of houses were built to accommodate the weavers and their looms, e.g. Patrick St. Hamilton, High Pleasance, Larkhall and Camnethan St. Stonehouse. The houses were generally though not always, one storey terraced houses with the front door opening right onto the street. This door led to a stone-flagged entry which gave access to the weaving shop on one side and to the living quarters of one or two rooms on the other. A ladder from the entry to the loft gave storage and extra sleeping space and a washhouse was usually added at the rear of the building. The weaving shop would hold from one to four looms which were worked by the weaver and his family.

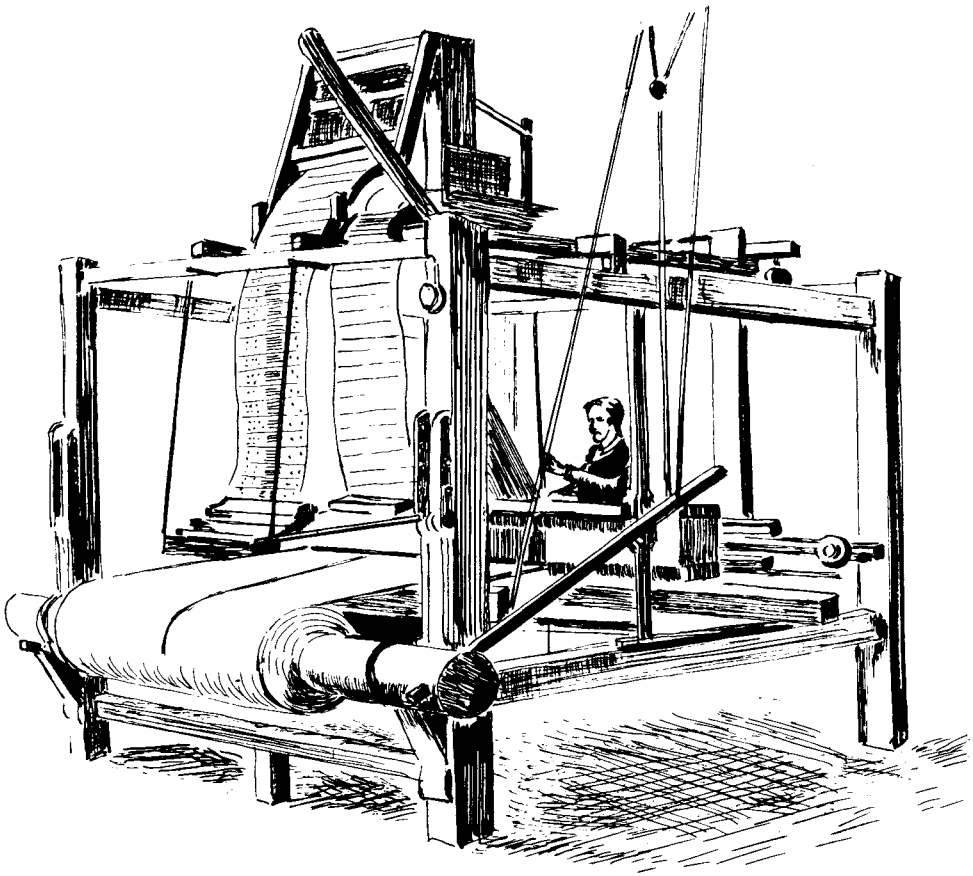
Some of the villages which expanded owing to the cotton boom may have been new, but their weavers were endowed with the same civic pride and high ideals of their fellow craft members in older communities. Nowhere was this more evident than in Larkhall where the weavers founded a friendly society for sickness relief in 1809 and followed this up by forming the first successful building society run on co-operative lines in 1816. The first houses they built in High Pleasance were, like their contemporaries, thatched "but and bens" with stone-flagged floors costing forty five to sixty pounds each and the repayments cost little more than the normal rent at that time. However the principles laid down were good and appealed to generations of weavers and coal miners, for by the 1920s two thirds of Larkhall householders were owner occupiers in what was reputed to be the largest village in Scotland. By 1840, at the time of the Statistical Account, the original society's operations were paid up and finished, but other three had started and were prospering. The movement had also spread to Stonehouse where two societies were operating.

Encouraged, no doubt, by the success of this co-operative venture the weavers then formed in 1821 a trading society called The Larkhall Victualling Co-operative Society and was the fourth society to be formed in Scotland. The forming of a Society of working people at this time took courage as a perusal of the "Combination Acts" poster in the Museum will illustrate. However the pioneer members, weavers all, were honest and sincere men, the undertaking prospered and after one hundred and fifty years is still trading.

Allied to the weaving was the decorating or "flowering" of the muslin. Fashion conscious ladies demanded fancy muslins and all over the West of Scotland manufacturers set up small factories to supply this market. Women and girls worked at home or in small establishments, the younger girls dotting the fabric in darning or satin stitch and the more experienced using chain and other stitches to "flower" it with sprays. For easier working the material was stretched on a tambour or hoop and in the factories an uncut web was stretched between two rollers so that four or more girls could work at it at one time. A frame of this type, used at Blantyre Mill, can be seen in the David Livingstone Museum at Blantyre.

The Statistical Accounts of 1792 describe how the female population of various parishes were now working at the "tambouring" instead of spinning and the high wages being made, sixpence to eightpence per day for a girl of nine years of age and eight to ten shillings per week for a skilled adult. The comments of the parish ministers who wrote the accounts vary but there is a slight current of disapproval running through some of them. Typical is the comment from the Monkland minister who said that high wages were leading to early marriages and that the farmers and presumably the ministers were suffering from a servant shortage.

Some of the accounts also detail the number of weavers employed in their district, Stonehouse for instance had 131, Larkhall had 100, and Hamilton had 450 looms, this being an increase of 200 since 1755. Cotton was the principal material worked and most of the weavers were now getting their employment from Glasgow or local agents. This does not mean that they were not self-employed, only that the agent supplied them with the yarn and paid them when the finished web was returned to him at a previously agreed price. In other words with the growth of commerce the agent or manufacturer had interposed himself as a middleman doing the buying and selling formerly done by the master weaver himself. These merchants with interests in the spinning mills and garment manufacture were able to exert an increasing control over the hand loom weaving industry.



**Jacquard Damask Handloom**

The Board of Trustees for the encouragement of manufactures etc. was still in operation offering rewards and incentives for improvements and, around the turn of the century, there were at least three machines invented which could flower or applique sprigs or flowers onto the muslin whilst it was being woven on the loom. A similar modification operated by an extra treadle was still in use on silk looms a hundred years later. We have in the Museum a small part of this attachment, a wooden block with reels.

Meanwhile other events were taking place which revolutionized the textile industry. The power loom invented by Dr Cartwright in 1774 was brought to Glasgow in 1794 and set to work in Argyle St. By 1807 Mr Archibald Buchanan had in Catrine, Ayrshire the first complete work in Britain in which warping, dressing and weaving by power were carried out. At first only plain fabrics were manufactured but in 1818 Wm. Perry of Glasgow was weaving figured goods and it was evident that power weaving would soon be the only means of weaving except for fabrics of complex patterns. In the 1841 Statistical Account Glasgow alone had 15,000 steam powered looms against 18,000 hand looms.

Fine cottons still continued to be in demand at the beginning of the 19th century but changing fashions decreed that more and more elaborate decoration was added to the fabric and sewed muslin later called Ayrshire embroidery became very popular. However the popularity of the muslin became its undoing, so many people came into the trade that they over produced. The price fell and a vicious circle developed as the weavers, to bolster up their falling income, worked longer hours and the increase in production brought the price down yet again.

The Statistical Accounts of 1841 paint a different picture of the hand loom industry from that depicted in 1791. Everywhere there is talk of decline in spite of the numbers of weavers involved e.g. Strathaven 400, Stonehouse 400, and Dalserf including Larkhall 460. The number of looms in Hamilton was 1,291 but the weavers if they could get work were only earning sixpence to one shilling and sixpence per day. Only the fact that a short-lived revival of the lace industry provided work for the women kept many families from want.

In one area in the West of Scotland, Paisley, a new branch of the weaving industry was thriving, the making of cashmere shawls. Developed against strenuous competition from France and England

the weavers in Paisley had eliminated their rivals in the fight for trade. However one of their merchants a Mr Young thought that he could increase his output if he installed some large harness looms in Hamilton. He therefore approached some Hamilton weavers who were only too pleased to have the opportunity of entering this profitable trade. Contracts were drawn up and signed and looms were installed in James St. and Patrick St. A skilled Paisley operative helped with the installation and instruction and soon the many-shuttled looms were in operation. However they had not reckoned with the tenacity of the Paisley weavers whose representatives came to Hamilton to confer with the Weavers' Union or Society in Hamilton. The charge was made that the Hamilton men had accepted lower rates and were undercutting their brethren in Paisley. How much truth was in the charge we do not know but there was much agitation and the weavers who had the looms put in stopped work. They refused to honour their contract and an example was made of one man called Absalom Kennedy who was sentenced to a month in jail. This sentence was later reversed but the harness looms were taken out and the opportunity lost to Hamilton.

The newspaper article of 1892, from which these facts of the Paisley shawl story were taken, relates that years later some of the agitators admitted they had blundered badly but by this time the "Paisley Shawl" was also a dead trade. The time when these events happened is not given but it probably was between 1835 and 1845 when the large harness looms were busiest. After 1845 the Jacquard loom began to be used and by 1850 the harness loom was obsolete.

Business continued to be difficult for the hand loom weaver, Cambric, imitation cambric, lawn and muslin were meeting increased competition from machine made fabrics like Swiss Embroidery which copied the white embroideries Glasgow merchants had made popular. Then, worse than all the competition and trade fluctuations, the American Civil War virtually stopped the import of cotton and the muslin weaving and flowering trade never recovered from this final blow.

Weaving was always a trade subject to market fluctuations, and weavers like most working people of their time had a large garden in which they grew vegetables to feed their family. As charity was anathema to them they also worked during slack times in coal mines, at the harvest and other seasonal jobs. In Hamilton for instance in the nineteenth century the Palace Wall, the Mausoleum and the road to Strathaven were jobs which employed a lot of out of work weavers.

Now that the power loom had outpriced the hand loom in the linen, cotton and wool trades the remaining weavers turned to the finest of all fabrics, silk. Silk gauze had been woven in Scotland since the 18th century but this new product was coloured patterned silk woven on a Jacquard Loom.

The Jacquard machine was the culmination of the work of several inventors spread over three quarters of a century, but the name of Joseph Marie Jacquard, (1752-1834), was given to it as the model he perfected was the one adopted in France. The invention was the most important ever applied to the hand loom and Jacquard received national acclaim and a life pension from the French Government. It was first shown in 1801 and by 1812 there were 11,000 Jacquard machines in France, but it was not adopted in Britain until much later.

The machine was mounted on top of the loom and actuated by a treadle. A series of hooks attached to the harness lifted selected threads of the warp to allow the shuttle to pass through, the selection being made by a perforated roll of card programmed from the pattern. The working part of the machine, as used by local weavers, can be seen at the Museum.

In the second half of the nineteenth century there were weavers working silk in Hamilton, Larkhall, Stonehouse and Strathaven, and also in smaller villages like Glassford. They got their material from agents in Hamilton, Larkhall and Strathaven, and after several weeks when the "wab" was out, returned the finished cloth for payment. For the outlying villagers, before the days of the railway, it also meant a long walk, with the carrier's cart to take their load if they were lucky.

Most of their ware at this time was coloured patterned silk for dresses, though white figured silk was also made. The patterns could be intricate and a weaver had to be his own setter, fitter and maintenance engineer. Skill and calculation were needed when setting up a new web with a different pattern on a Jacquard loom.

The longitudinal threads of a fabric are known as the warp and the transverse threads as the weft. Both of these had to be collected from the weaver's agent when a weaver was beginning a new web. The weft was supplied in hanks or large bobbins ready for winding onto small pirns for the shuttle but the warp was made up in what was called "chains". These chains consisted of a number of portions of a few threads, each the full length of the warp, carefully divided from each other, the width of the web determining the number of chains required.

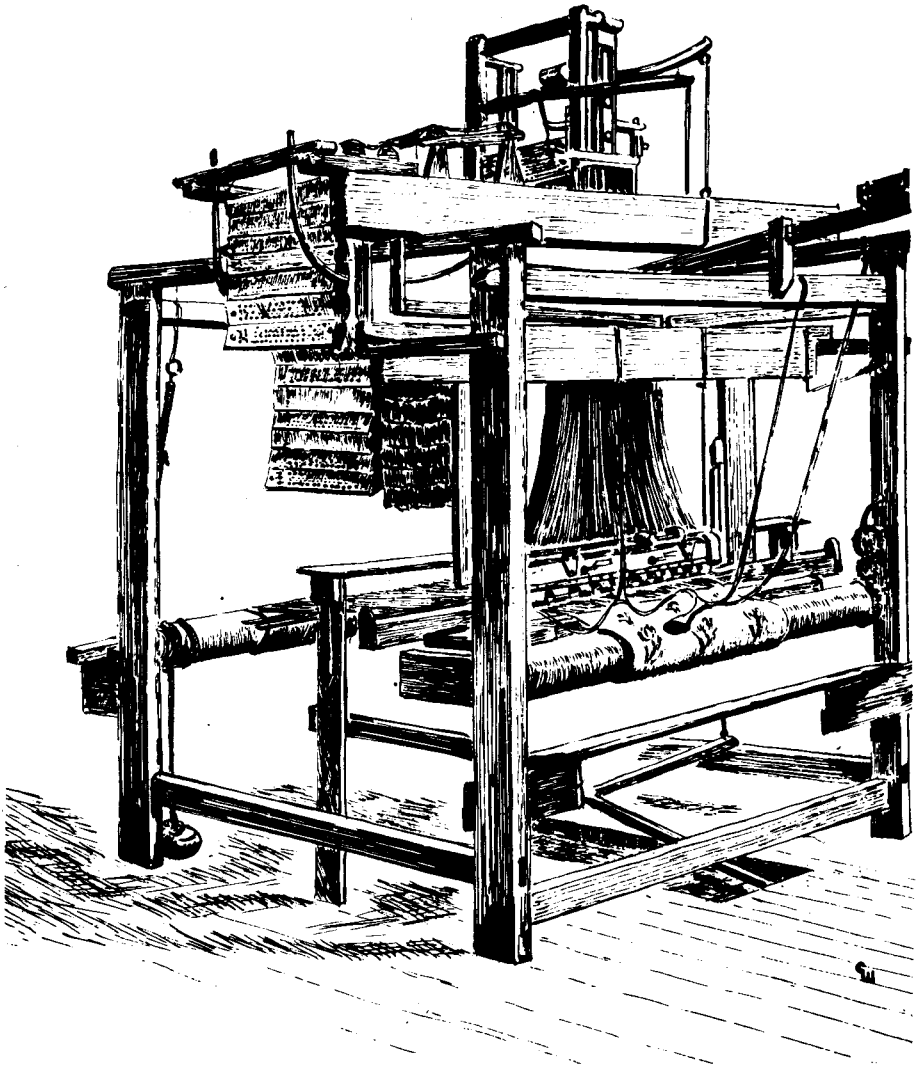
After collecting his stock of materials the weaver's next task was to have the warp wound onto the beam of his loom. This was at one time a communal task and weaver neighbours helped each other to wind the warp straight onto the beam whilst it was still on the loom. The invention of beaming machines c. 1840 however changed this centuries old custom and after this the beam and the warp were taken to the local beamer's shop. Beamers were usually weavers who had taken out their looms or used an old weaving shop in which to install a beaming machine. Most villages had at least one beamer, the Hamilton Directory of 1856 lists four, as well as other specialists like a weaver's wright and a weaver's turner and utensil maker. The machine itself was a framework not unlike a large lathe worked and controlled by large treadles, the beam was secured on this frame and the chains of the warp were wound on, being kept in tension by a system of pulleys and spaced out by a framework of pegs.

The help of neighbours or fellow weavers was also required at this time to join together each thread of the new web to each corresponding thread of a small piece of the old. This was done by twisting the threads together in the fingers with sometimes a little whitening to help adherence, and after all were joined the web was pulled through the harness etc. and was ready for a new start. This operation was called "twisting" and is an example of the community spirit and helpfulness for which weavers have always been noted.

Up to the end of the century there was still a living to be made at the weaving, and weavers' cottages were still being built in the 1880s, e.g. Hill Rd. Stonehouse. After the turn of the century however very few people took up the trade and after the first World War only the older men worked on, when work was to be had. With changing taste and fashion the only outlet for the brilliant silk was India and Burma, and for white silk, miners' scarves.

The last two weavers in this area, as far as is known, were two quiet kindly brothers Robert and James Hamilton of Camnethan Street, Stonehouse, who stopped work in 1939.

The silk loom illustrated here belonged to the Hamilton brothers, it is now in the Royal Scottish Museum, Edinburgh and, though it is not on public display at present, I was given access to it by kind permission of Dr. A. G. Thomson of the Technology dept. The sketch shows clearly the Jacquard machine on top of the loom, the endless chain of pattern cards coming from it, the harness and the controlling lever connected to the treadle. Mr James Hamilton, who died in 1959, set up the loom himself and it looks as if he had just laid down the flypin and stepped out for a moment.



**Jacquard Silk Handloom, Royal Scottish Museum.**

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## Acknowledgment

The illustrations of the 18th century Pirn Wheel and of the "Plain Linen", "Damask" and "Jacquard" looms were redrawn for this booklet from illustrations by W. Thomson in the "Weaver's Craft" by D. Thomson.

*Printed by J. R. Reid Printers, 109 Glasgow Road, Blantyre, Glasgow.*