SHUTTLE CRAFT

DECEMBER

PORTFOLIO

1958

SHUTTLE CRAFT

THE MONTHLY BULLETIN OF THE SHUTTLE CRAFT GUILD

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Portfolio Sample: Christmas Card

Cover: "We Three Kings"

The Shuttle Craft Guild was founded in 1922 by Mrs. Mary M. Atwater and operated by her until 1946. Mrs. Martin (Harriet) Tidball was owner-director from 1946 to 1957. It is now owned and operated by Miss Mary E. Black and Miss Joyce Chown Bedford, Nova Scotia, Canada

Associates

Harriet Tidball—Multiple-harness weaves—1002 Washtenaw Ave., Ypsilanti, Michigan

Boris Veren-Book reviews-Coast Route, Monterey, California

Photography

Russell Heffler, Bedford, Nova Scotia.

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From Weaver 70 Weaver

Dear Guild Members:

December is a month for looking both backward and forward.

On the one hand we review and assess our accomplishments of the past year, and on the other we formulate our plans for the new year ahead.

What we have accomplished in 1958 has been evident to you, our readers. Many of you have taken time from your weaving to write us of your pleasure in what we have done and we thank you. A few have written us to point out our errors and omissions—as though we did not know them only too well! But we thank you too because while commendation serves to make us purr, criticism jerks us up by our bootstraps and makes us really work.

It has been, and will continue to be, our policy to offer articles in each issue on three levels: for the beginning weaver who is afraid of drafts, threads and most of all of his loom; for the weaver who is at the intermediate stage and is full of questions; and, for the advanced weaver who keeps us awake at night striving to keep that one leap ahead of him. Fortunately we have had Harriet Tidball to do the heavy thinking for us and to offer that challenge, which the advanced weaver needs, to stimulate him to creativeness.

We have had a few letters from weavers who would like to have more detailed directions. We could tell you exactly how much thread to buy, price per ounce, just exactly how to plan your warp, etc., for each project but this would not help you grow in knowledge and you cannot completely enjoy your weaving unless you understand it. We are always glad to have you write us about your problems—after you have first struggled with them yourself.

This is a time of year when Guilds are especially active and we feel we know you better through reading your Guild publications. Working together brings not only pleasure but an exchange of knowledge, on an informal basis, which is beneficial to all participants.

We trust our Christmas suggestions helped you weave just the right present for each member of the family, and each friend, and that new ideas for your 1959 weaving came to you as you wove.

Have you read the Loom Side Market carefully and patronized the advertisers this past year?

Our plans for articles for the New Year are exciting and we think they will please you, but Miss Chown will write of them in the January issue.

Until then, happy weaving and a most Cheery Christmas.

Sincerely,

Marykslack. 1



Woven by Mary E. Black
Design—adapted from a Swedish block-printed textile.

FRENCH GOBELIN, Part II

by Joyce Chown

Design

I'm sure almost everyone has seen in museums, or in books, examples large or small of old French tapestries. And from these tapestries whether real or on paper, you will realize that the possible subject matter for designs seems to be unlimited.

There are, of course, limitations imposed by the technique, but this is to be expected in any medium be it weaving or painting, enamelling or what you will.

The earliest tapestries woven in western Europe and those produced up to and including the middle ages are generally considered to be the best from the standpoint of design. This because, these early designs—as compared to later ones—were relatively simple in line, form and color, and this simplicity loaned itself better to the tapestry medium. After the middle ages, tapestry designers were either painters or imitated painters, and thus produced designs which were overly detailed and showed literally hundreds of shades and nuances of color in an area of the design—say a hand, or face, or fold of drapery. This detailed shading in the tapestry, produced a tapestry that looked like a painting.

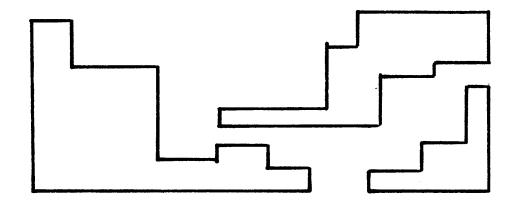
Hindsight of course is easier than foresight, but now we ask, "why weave something to look like a painting? Why not just paint it?" It took a few hundred years for tapestry designers to realize they were making a mistake, but it is generally felt now that the best tapestry design should be simple and shading kept to a minimum. Look, for example, at tapestries by contemporary French designers such as Jean Lurcat and Gromaire and compare them with the 17th century French tapestries woven a la Watteau, and you will see what we mean.

But to our own little tapestry frame. (To prepare the frame for weaving see November 1958 SHUTTLE CRAFT).

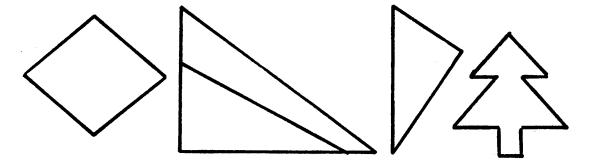
Several elements about the design for this first piece are the same as for the Swedish Knot, viz.: "the design must be simple—and made up of solid blocks of color with no shading". Shading is found in French tapestry, but we will go into this in a later article. "Do not attempt a line design, or even pattern areas outlined by a single line. The pattern areas must not be small or finicky" since it is not possible to weave fine detail with the combination of warp, weft and warp set, that we are using. "Any shape may be woven, that is, horizontal lines, vertical lines, diagonal lines and curved lines may be used to make up the design areas".

In this first piece, it is a good idea to try and incorporate as many shapes as possible into your design—without cluttering it—so that you have to meet as many problems as possible.

Vertical lines are vertical lines and horizontal lines are horizontal lines and can't be anything else, but when you make your design, try to vary the length of the lines.



With diagonal lines, you can vary them by drawing them at different angles, and combining them with horizontal and vertical lines.



With curves, try different kinds—try a long gradual curve, a short fast curve, a vertical, a horizontal and a diagonal curve.



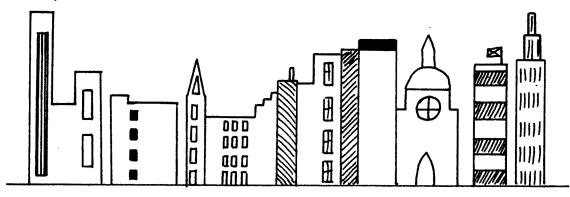
Note that while these curves have been drawn as lines, it should be understood that they are merely to show the outline shape of a design area. Do not put single lines in your design; they are too difficult to weave, especially at this stage.

You may wish to take the suggested shapes and outlines shown above and make up an abstract or non-realistic design. For some of you, the thought of an abstract design may leave you cold, in which case, adapt the suggestions to more realistic shapes.

For example, the sketch below is from a detail of an old tapestry. The sketch is crude, but will perhaps give you an idea of how you can work in horizontal and vertical lines in a not-so-abstract manner.

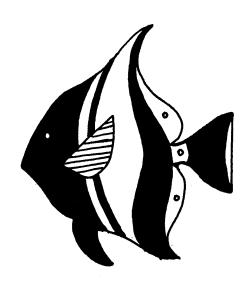


Or try making a design using your city or town's skyline—and include spires and domes, gables and peaks, flat roofs and slanted roofs.

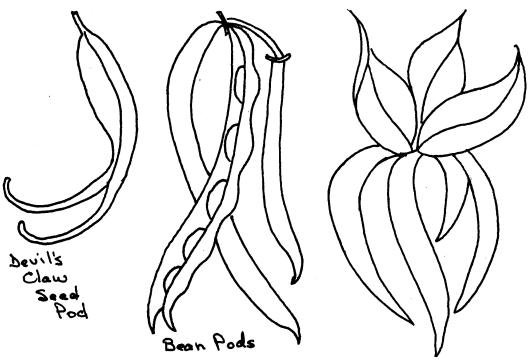


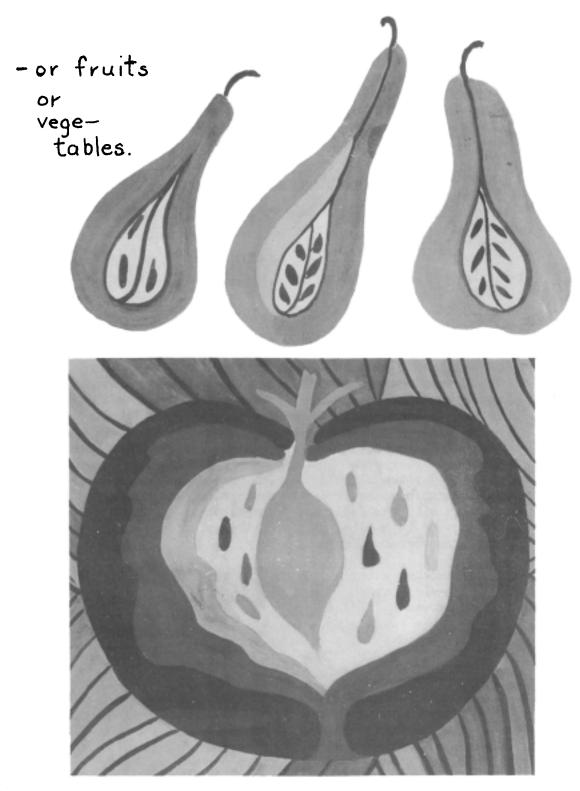
Or if you like working with forms from nature, you can find almost any shape imaginable just for the looking. This little fish, for example, would give you diagonal lines. By the way if one were to weave this fish, the design should be turned side-ways, that is, so that the fish is standing on his nose or tail. Why? Because as with the Swedish Knot, it is easier to weave a curve in a horizontal position than a vertical position, and the majority of the lines in this fish run up and down.

To go with the fish—or fishes—you could also incorporate the long thin sea "grass" into the design. This too, would be more easily woven sideways than right side up.



Or try buds, flowers, leaves or seed pods.





If you should plan to weave this or a similar design, it should first be enlarged to about twice its present size

Or if you have a preference for animals—try them—cats for instance. But whatever you try, remember that these natural forms must of necessity be slightly stylized because you cannot have any shading or fine detail.

Your design should be 12" wide by not more than 12" high. You can plan it with or without a border, but if you don't have a border, try and have several vertical lines in the piece—for practice.

Color the cartoon with the colors you are going to use and then stand well back and see if you still like it. If not, tone the colors up or down till they are right. Be careful not to have an isolated spot of very dark color anyhere. The very dark colors tend to look darker when woven or —as we mentioned earlier this year—as if a hole had been burned right through the fabric.

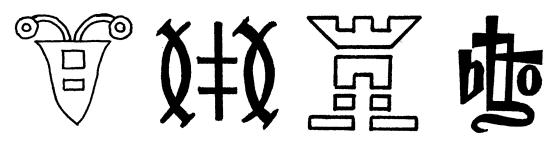
Trace the design (page 9, February SHUTTLE CRAFT) onto tracing linen; transfer it to your warp; and, ink around each dot as described for the Swedish Knot. (Pages 18 to 21, steps 1 to 3 inclusive, May 1958 SHUTTLE CRAFT). Remove the thread you put in just below the brackets which put the warp "in neutral".

You are now ready to weave; but, this must wait till the January, if space permits, and if not, the February SHUTTLE CRAFT.

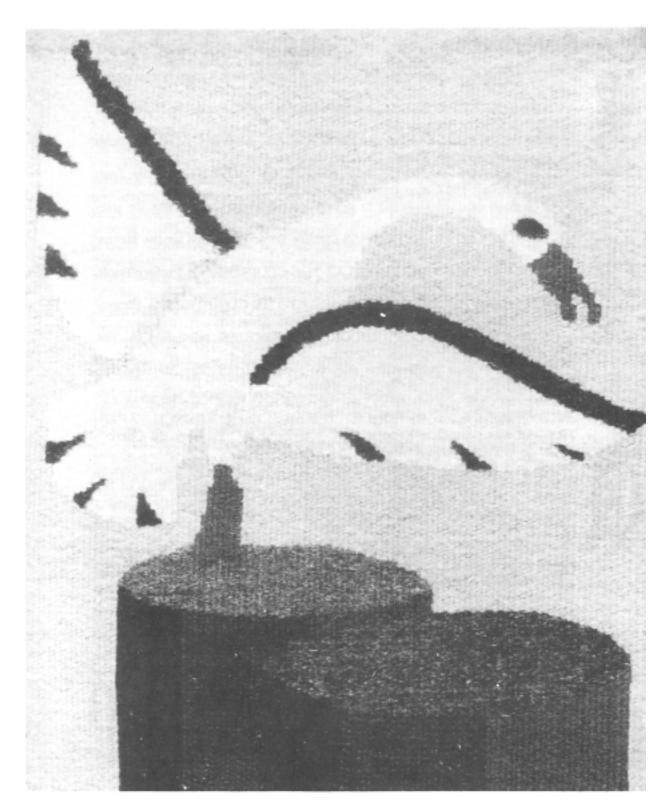
It wasn't until after our article had gone to the type-setter that we remembered the two photographs in this article--both of tapestries woven by Miss Black.

The little "cat" tapestry was one of the first tapestries Miss Black wove and she has always been a little distressed by the slightly ragged curves in the legs. As you can probably see from the photograph, this tapestry was woven with the design right side up; but, we think now, that if it had been woven sideways, those long curves would have worked up more smoothly.

As another example--of what to do, rather than what not to do--look at the second tapestry. Notice the long, gradual curves in the gull's back and neck, the top and bottom of the right wing, and, the tops of the piles. This tapestry was and should have been woven with the design right side up. If it had been woven sideways, these lines would have been much more difficult to weave and the gull would probably have looked as if it was wearing a stiff coller.



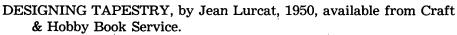
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References

For pictures of tapestries by contemporary French tapestry designers see:



- LE BESTIAIRE DE LA TAPISSERIE DU MOYEN AGE, by Jean Lurcat, 1947, Pierre Cailleur, Editeur, Paris.
- LE TRAVAIL DANS LA TAPISSERIE DU MOYEN AGE, by Jean Lurcat, 1947, also from Pierre Cailleur.

For good examples—some in detail—of mediaeval tapestries, we suggest:

MEDIAEVAL TAPESTRIES, A Picture Book, published by the Metropolitan Museum of Art.

THE UNICORN TAPESTRIES AT THE CLOISTERS, A Picture Book, published by the Metropolitan Museum.

THE NINE HEROES TAPESTRIES AT THE CLOISTERS, A Picture Book, published by the Metropolitan Museum.

THE FLORA OF THE UNICORN TAPESTRIES, published by The New York Botanical Garden.

The above four publications may be ordered from: The Metropolitan Museum of Art, New York 28, New York.

We can't tell you where you can buy the next book—we haunted several book stores before we found it. It is called simply FRENCH TAPESTRY and was printed in France, 1947, copyright by "Editions du Chene", 4 Rue de la Paix, Paris, France.

It is a translation from a French text, and while the translation is rather stilted, it does give a good description in words and pictures of the history of French tapestry, as done in several of the outstanding tapestry workshops in France, "from its origins" to the present "revival of tapestry in France".

There are of course, several other good books on tapestry weaving, but to start with, we think you'll find the ones we've mentioned will make a good nucleus—and none of them are expensive.

And if you've already got these books and wish to round out your collection, we suggest you haunt bookstores—first hand and second hand—as we did; and also Boris Veren, Craft & Hobby Book Service, who has some excellent books on tapestry weaving from Western Europe and South America.









WEAVING AS THERAPY

by Mary E. Black, O.T.R.

Weaving with its many ramifications lends itself particularly well to occupational therapy.

That it is not used as extensively as it could, and should be, is largely because the preparation of warps, threading of looms and teaching the mechanics is too time consuming for the average therapist, who has overly large groups of patients assigned to her for treatment. If the therapist prefers crafts other than weaving, she naturally will use them first. This is quite legitimate if they offer equal therapeutic processes, otherwise not. Then again adequate provision may not have been made for looms, or the looms which are available may be obsolete and in poor working condition.

No matter what the cause may be it is unfortunate that this condition exists and that patients are denied knowledge of this interesting, challenging activity.

There are two suggestions we should like to make to remedy this situation. The first is one which concerns hospital policy so we can only mention it. The thought has come to us that steps could be taken to train and utilize the dormant teaching ability, in-so-far as the personality would permit, of some of the many intellectual patients who face indefinitely long periods of hospitalization.

The second suggestion is to increase the number of volunteers assigned to assist and work with the various therapists. Many of our psychiatric hospitals seek the services of volunteer workers and have set up training courses for volunteers with special skills. These volunteers after a period of indoctrination can render valuable assistance to the therapist in carrying out the treatment program. Those who lack the temperament to work directly with the mentally ill, can render valuable service behind the scenes threading looms and in many other ways. Patients respond quickly to the attention that a volunteer has time to give. The interest in the activity deepens and contact with an individual outside the professionally trained hospital staff is beneficial in many ways. On the other hand the satisfaction which comes to the volunteer as she becomes aware of the patients' improved reactions and deepening interest, all indicative of a return to normalcy, repays her many times over for the effort put forth to meet the commitments of her volunteer job.

To provide really effective treatment weaving should be broken down into its various processes, and these graded progressively. This is a task which a weaving guild could well undertake as a special project. Keeping in mind that the intellectual abilities of the mentally ill individual vary from that of a three year old through to that of the individual with a

superior I. Q. it will be seen that it is quite necessary to know weaving processes thoroughly in order to adapt them to the specific need.

The fact that a patient's reactions may seem to be on the level of a three year old does not necessarily mean that this is the actual intelligence level. There are many emotional and/or other factors which may cause the patient to react in the manner he does. What the volunteer must first be told, or discover for herself, is just how much remains within the patient of normal thought and action, and then work from this thin lead through gradual progression until the maximum of the patient's ability to think and act has been reached.

It is difficult for the layman to understand the needs of the mentally or nervously ill person, nor to picture his daily life on the wards or at the O.T. centers. The objective of treatment is first and always to help the patient toward complete recovery and failing this to help him make a comfortable adjustment to the hospital environment. Every effort is made to create pleasant, attractive homelike surroundings. The occupational therapy program helps greatly to accomplish these aims—first by helping the patient back to normalcy, and secondly by planning group and individual projects, which upon completion can be utilized throughout the hospital or for personal use. It is here that weaving can play three important roles, viz.—decoratively, economically, and most important, therapeutically. The therapeutic value is increased when the patient sees that his handiwork is useful and really used.

Proceeding on the premise that even the most mentally disturbed individual is capable of some productivity projects are planned on the assumed capability level of the group.

It is not possible here to discuss all the various types of weaving nor all the types of mental illnesses, nor personality deviations, but a few examples starting with the more retarded patients, may help to clarify the picture.

In any psychiatric hospital where modern methods of treatment are used it is not unusual to see a group of very retarded patients seated around a table ravelling burlap, old stockings and tearing and sewing rags. A more active member of the group whose rehabilitation program requires a task embracing of trepeated motions and simple concentration will weave these materials into rugs or drapes on a two-harness loom. It is difficult for the patient to concentrate sufficiently to obtain the required co-ordination, but with constant urging it will come. Short warps of coarse cotton can be wound by members of the group who have progressed to near infantile level and sit with head on chest, knees drawn up to chin. The warping board is so placed that the patient must stand erect and look up to see what he is doing. Constant urging and encouragement, and infinite patience and devotion are needed to accomplish results with such a group, but the benefit the patients receive when they see bright attractive drapes which they have made themselves, at their classroom or ward windows, is well worth the effort. There is awakened in such patients an awareness of their surroundings. This is often the first step toward improved hospital adjustment.

The salvaging of torn wearing apparel is accomplished with great effort by the destructive patient because a constructive urge is being substituted for a destructive one. An excited young boy, hair disheveled, clothing unkempt and torn can be taught to weave this salvaged material on a warp of gay bright colors of his own choosing. He makes a conscious effort to follow the directions because he is to have the first rug he weaves in return for a promise that he will try to stop tearing his clothing. As over activity becomes somewhat controlled, he is transferred to a flyshuttle loom where he can work off surplus energy on plain yardages for institutional dishtowels. After a few days of this he will be required to weave colored stripes in orderly and measured succession. Because he likes weaving, its rhythm and the play of color, and because it quiets him, he is transferred to the weaving room where he progresses rapidly from one process to another until his over-activity ceases and he is well on the road to recovery. This new interest will carry over into his home environment.

There are in every hospital, large groups of patients who, as individuals, have never been able to achieve what their associates do. To compensate they have withdrawn into themselves, and created a dream world in which they find satisfaction. It is necessary to study these individuals very closely and carefully in an endeavour to discover their natural aptitudes and interests. Once discovered, and this may take months, a definite treatment program, based on the findings, is instituted. Weaving with its many progressive steps-its opportunity for the introduction of bright or subdued colors-its adaptability to repetition, variety, monotony or processes requiring the use of initiative, plays an important part. The progressive possibilities of weaving are never quite exhausted with this group, but the patient must not be discouraged through having too many processes shown him at once. He must be led slowly and carefully through the progressive steps from two to eight harness weaving, if his ability permits, each step made simple enough to be readily understood and executed. Lavish praise must be given for effort rather than for the finished article. These individuals are seldom good craftsmen, and the instructor must give praise for effort, rather than for fine craftsmanship. High standards of workmanship, in so far as the patient is able to meet them, should be upheld but should not be made the ultimate goal. Silas Marner proved beyond question that weaving was of value to the epileptic, though certain precautions are necessary to prevent injury to the patient in event of seizures.

The various tapestry weaves, used first with heavy widely spaced warps with rags, or heavy wools or cotton yarns for weft are especially indicated for depressed or agitated patients. The sometimes clenched fingers and tense muscles respond to the interweaving of warp and weft. Stooped posture is straightened as the work proceeds upward. As improvement comes, finer threads and more intricate designs can be introduced. High warp

tapestry weaving has some characteristics which are not found in the low warp processes. Somehow it seems the more soothing yet spirited beating with bobbin or comb can contribute greatly to finishing off one's enemies! Tapestry weaving is also very good for patients with creative ability, who because of the nature of their illness, can look forward only to a long period of hospitalization. They can be taught to weave beautiful tapestries for recreation and reception rooms for the hospital, chapel and offices. They should be encouraged to create their own designs, under supervision.

Throughout all weaving, runs color. We know that color has definite symbolic or emotional reactions on people, whether well or ill. Therefore much care must be exercised in choosing colors for the various projects. When it is definitely known that color "A" is a favorite with the patient, while color "B" causes depression, or reminds them of something they may wish to forget, it should not be used, except on the advice of the patient's physician.

The variety of articles which can be woven for hospital, or personal use, is as great or even greater than those woven by members of many weaving guilds.

Articles range from the crude, but colorful, rag rugs of the very ill patient, up through the many weaving processes and techniques to the finest of linens, woollens and silk weaving. Into each piece has been woven something of the individual—sorrow, discouragement, hate, love, peace or joy,—but present in them all is that intangible something which all weavers experience in the rhythm of weaving.

With James Maxwell, the poet weaver, we together whether well or ill, can say—

"Lo, here twixt Heaven and Earth I swing, And whilst the shuttle swiftly flies, With cheerful heart I work and sing, And envy none beneath the skies."

Stoles

Mrs. Hugh Rankine of Winnipeg suggests putting a basic warp on your loom of rayon, or dacryl or wool (Weavecraft or Lily Weaving Wool). Then you should have on hand, small quantities of several good quality novelty threads: white rayon boucle twisted with metallic; colored rayon boucles twisted with metallic; dull and shiny, thick and thin, rough and smooth, loosely-twisted and tightly-twisted dacrons, rayons and nylons with and without metallics.

Use a different weft in each stole or perhaps combine 2 or 3 weft threads in each stole "so that you have an excellent variety of graceful stoles to offer. Each stole will be charming and different. Insert a supply of the weft threads in the fringe of each stole for harmony. A popular size for stoles; 22" wide by approximately $2\frac{1}{2}$ yards long, including fringe."

If You Plan To Buy A Loom!

The following article was written by Mrs. Tidball a few years ago, and distributed in pamphlet form. We have had several requests for this, and since the information in the article is as thorough, timely and up-to-date now as when it was first printed, we are re-printing it here.

That means that you plan to be a handweaver, or that you are a handweaver but you need more adequate equipment. Fortunate is the weaver who from the outset has had strong, versatile, efficient equipment, which never wears out or becomes inadequate for the constantly enlarging scope of the craft. The expensive replacement of equipment may be avoided by carefully evaluating the quality of looms, and the demands which will be placed on one, before purchasing.

The loom is the basic tool of the weaver's craft, and the quality of the product weaving, as in other fields, is determined by the quality of the tools. Poor tools lead to poor work; good tools lead to good craftsmanship and to the maximum enjoyment from the craft. There is the additional consideration that many good looms are limited in their scope of performance and, though adequate for simple weaves, soon lead the imaginative weaver to frustrations because of the many weaves which cannot be produced on them. The potential weaver has no backlog of experience for judging the quality or performance of a loom, and usually must rely on hearsay, or on the word of a weaver who may not be completely informed on looms, or on advertising or salesmanship which may be misleading. Even the experienced weaver, in most cases, has not had opportunity to exhaustively investigate enough types of looms to know what is best suited to his own needs.

This article is an attempt to make an appraisal of the qualities which make up a good loom. The judgments are based on the use of many different types and makes of looms, over a period of years, in the Shuttle Craft Guild Studio and elsewhere, through personal use and through the reactions of many serious weaving students. It has often proved true that a new loom will bring forth enthusiastic reaction when one type of material is warped on it, but that when another material is warped it will provoke only displeasure. In several cases a loom has seemed completely adequate and versatile, but after a year or so of use it has deteriorated to the point where it needs repairs or replacements. Looms such as these two are not here considered as good looms. Only long and serious attention to loom qualities and function can determine the basic requirements.

BASIC QUALITIES REQUIRED OF ANY LOOM

The experienced loom user can evaluate certain points in any new loom immediately, and on the manner in which a loom meets these qualities will accept or reject it for further consideration. The first of these is that the loom frame must be of all hardwood. Eastern maple, ash or walnut have proved the most satisfactory woods, or Tennessee cherry, -never fir, pine or other soft or medium soft woods. All loom joints must be fitted carefully, and rigid joints must be glued and screwed or bolted. There is no place in a good loom for such tid-bits of hardware as small screw eyes, screen door hooks, cotter keys, and other fragile pieces, nor should there be any nails. If a loom has cords, the cords should be of linen, the highest quality woven or braided. If treadlelam connections are made with cords, the cords should be double lengths, secured with snitch knots, and very easily changed. The harnesses must be securely hung so that they will never jerk out of exact alignment while weaving is in progress. The loom must have steel or wooden lams between the harnesses and treadles, which are attached so that the weight on each treadle is identical if each one is tied to the same number of harnesses. This means that the lams should be free, rather than hinged to the loom frame. Treadles should not wobble. The beater must be strong and heavy, slung from as near the floor as possible, and its height should be adjustable. The top of the beater should be easily removable for changing reeds. The beater must have a shuttle race about $1\frac{1}{2}$ wide, and the warp must lie flat on the shuttle race, without distortion, when the warp is at rest and when a shed is made. All functional parts must lie in perfectly parallel alignment: this means the warp beam, back beam, harnesses, beater, breast beam and cloth beam. The warp should rise at least 3" above the shuttle race when a shed is made, and both top and bottom shed should lie perfectly flat. The warp beam should have an efficient release mechanism by which the weaver may change the position of the warp without rising.

SECONDARY QUALITIES OF LOOMS

There are certain points in the construction of a loom—matters of debate among weavers—which may be merely personal preference. However, personal preference is usually based upon familiarity with a particular type of loom rather than on thorough knowledge. It is on these points that the careful loom purchaser asks questions.

Should heddles be of string, flat steel, or wire? Partly a personal preference matter. It is a myth that string heddles are easier on warp, and there seems little excuse in these days of modern conveniences for the use of such primitive equipment, except in emergencies or for making corrections. Flat steel heddles are heavier than wire heddles and they weight the harnesses more, which may or may not be an advantage. The eyes of flat steel heddles lie at an angle, so they must be threaded with greater caution than wire ones. Wire heddles are smooth, whereas flat steel heddles have edges which are apt to be hard on the warp. If the loom is counter-balanced, either type is satisfactory. For a jack-type

loom in which the warp rests at the top of the heddle eyes, the wire heddles will cause less damage and fraying. For close warp settings with 20 or more heddles per inch on a single harness, flat steel heddles are more compact.

Should the loom have a sectional or a solid warp beam? Actually, the completely versatile loom has both beams, either permanently in place or interchangeable. The sectional beam is used for beaming long, standard warps, whereas the solid beam is used for short warps (under 20 yards), for warps of unusual material, for fragile materials, and for stripes and plaids. A sectional beam may be used like a solid beam if guide pegs are placed on the back beam to prevent the warp from being caught on the section pegs during beaming. The sectional beam with rounded steel pegs may be beamed with a chained warp without a guide. The solid beam can never be used as a sectional beam. The sectional beam should have a circumference of at least \(\frac{3}{4} \) yard, better 1 yard. The section pegs should measure 2 inches apart, center to center. As many interesting weaves require the use of two warp beams simultaneously, there is a great advantage in having both solid and sectional beams permanently in place. With this, one should be controlled by a brake rather than a ratchet and prawl, and the loom should have a double back beam.

Should treadle-lam ties be of cord or wire? Traditionally, ties are made of cord, with snitch knots in the center of double ends, for changing tie-up positions and for adjusting. If wire ties are properly engineered so that they are secure, and if the treadles lie at the proper angle so that all wires may be of the same length, there is a great advantage in the wires, particularly for multiple-harness looms. A multiple-harness tie-up which requires several hours to make and adjust with cords, will require only a few minutes with wires, and no further adjustments are necessary. Cords with hooks attached may or may not be satisfactory, according to the quality of the hardware.

Should the loom be equipped with aprons, or with cords and beam-rod? A personal preference matter, but few manufacturers supply aprons. The apron is a piece of canvas or ticking, the width of the cloth beam, which is tacked to the beam and reaches around the breast beam almost to the beater. Into the hemmed and slotted edge a tie-in rod is placed. Both beams may have aprons, and some weavers feel they give the warp greater stability. But the apron has the disadvantage that the slots are static so warp groups must always be the same size. A cord and rod arrangement, if there are enough cords, is good, and even better is a wooden stick held with strong woven tapes, though the stick is more wasteful of warp. On a sectional beam, the most efficient system is a long loop of cord which reaches to the harness, in each section, though rods and cords serve.

How wide should the weaving space be? To the inexperienced weaver a wide weaving space seems desirable as the position of the warp need not be adjusted often. The experienced weaver recognizes the fact that good tension and smooth weaving cannot be maintained when the weaving continues for more than 6" without changing warp position. Therefore, a weaving space of about 12", which permits shuttle-race clearance and a minimum distance between weaving edge and reed of 4" is adequate. Weaving space wider than 15" is undesirable as this places the beater so far from the weaver than a very long-armed, time-consuming reach is required.

What is the best width for a loom? Largely a personal preference matter, determined by the types of weaving to be done and by the individual's most pleasurable weaving width. The reed and inside harness measurements determine the maximum weaving width and the minimum is as little as 1". An important consideration, often overlooked, is the question of maximum width for maximum ease, efficiency and minimum fatigue. The average weaver finds this between 30 and 40 inches. For practical considerations, a width of 32" is sufficient for weaving vardages for which the single width of 27" to 28" is most economical. In figuring finished cloth widths, keep in mind losses from narrowing, take-up and shrinkage, which require about a 40" warp for a 36" fabric. Remember that the wider the harnesses, the more they will weigh, so the wider the loom, the heavier it is to operate. In general it is assumed that handwoven fabrics are narrow, and a perfectly crafted joining in a drapery, rug, or a table cloth is accepted as an integral part of a handwoven article, in no way detracting from its beauty or value. Some weavers find an actual physical pleasure in very wide weaving, while others have space limitations demanding a 20" or 24" loom.

Is a rigid loom better than a folding loom? In most cases the good folding looms are as strong and will last as long as the rigid looms. Folding looms have the advantage that they are usually shipped set up, whereas rigid looms are shipped knocked down. A folding loom is more compact and may be folded and pushed aside even when weaving is in progress. Most folding looms permit the weaver to sit in a more comfortable threading position. So the advantage seems to lie with the folding type.

How many harnesses should one have on a loom? Largely a personal preference. Most weavers start with 4 harnesses and then progress to an 8-harness loom. Since 2, 4 and 6-harness weaving may be done on 8 harnesses, the wise weaver anticipates this widening scope at the outset and purchases an 8-harness loom at the outset, or, better yet, a 4-harness loom to which more harness assemblies may be added later. There are many techniques which cannot be accomplished on 4 harnesses, and design potentialities multiply with increased harnesses. However, most of the supposedly 8-harness techniques can be woven on 6 harnesses. There are certain techniques which cannot be accomplished on 8 harnesses but require 10. Therefore it would seem more reasonable to purchase a loom with 6 harnesses at the outset, which may be satisfactory for a lifetime of weaving, and then grow to 10 if one wishes more. Few weavers will ever need more than 10, though some very advanced weavers find a great challenge in having 12 or 16 harnesses.

How many treadles should a loom have? A loom with 12 or less harnesses should have at least 2 more treadles than there are harnesses.

A 4-harness loom should always have 6 treadles: with only 4 it is necessary to tie one harness to a treadle and make the weaving combinations using both feet simultaneously. This is awkward, slow, and energy consuming, while the most efficient treadling is through having harness combinations tied to treadles so the weaving may be done in "walking" motion. There are certain advantages in having even more treadles, and many weavers like to have as many treadles as the loom width will permit. However, for 14 and 16-harness weaving, the weaver can manage with as many treadles as harnesses, if the loom will not hold more. Treadles 1" wide are adequate, with spacers so that $2\frac{1}{2}$ " are allowed for each treadle.

Is a treadle loom better than a hand-operated loom? The answer is definitely "yes" except for specialized circumstances. The hand-operated table loom is the answer for the person who is physically handicapped and does not have the use of his legs. The table loom is right for the person who has only limited space, must weave on a card table and store the loom in a closet when not weaving, or who wishes to carry a loom about in a car. A hand operated loom is excellent as a second loom for small weaving projects, for sampling and experimenting. Several factors reduce the efficiency and the quality of the fabric on handlooms. obvious factor is speed, which is greatly decreased when all the work must be done by the hands instead of dividing it between hands and feet. Further, all shed changes are made with the right hand, which overworks one side of the body so that fatigue sets in rapidly. The weaving space on a table loom is of necessity narrow, so that sheds are too narrow for good weaving, there is not enough space for the beater to have a shuttle-race, and only a few inches may be woven without adjusting the warp position. Of great importance in the textile quality is that the beater arc is so small, since the beater cannot be slung from the floor, that a satisfactory beat for many textiles is impossible. The chief advantage of the table loom is that it is inexpensive, so except for the special circumstances mentioned above, a table loom which even approaches the cost of a good treadle loom, is an absurdity.

How thick should the harnesses be, and how much space should they take? This is of little moment in a 4-harness loom, but is very important with more than 4 harnesses. Narrow, closely spaced harnesses lead to good multiple-harness sheds. Most counter-balanced and free-swinging-harness jack-type looms require about 1" per harness, 4" for 4 harnesses. The push-up type harnesses, in which harnesses are held in grooves, can take less space, and 4 harnesses requiring $2\frac{1}{2}$ " is good, 5" for 8 harnesses. Steel harnesses require the least space, needing only $1\frac{3}{4}$ " for 4 harnesses, $3\frac{1}{2}$ " for 8 harnesses, which is a distinct advantage. An important point in multiple-harness construction is that the level of the harnesses must have a slight downward slope toward the back of the loom.

How many reeds are needed? Every weaver, except one who specializes in "yardage" of a single standardized kind, should be equipped with several reeds. It is impossible to get all warp-settings through a single reed, and different warps and different weaves require special settings. No

one thing makes more difference in the texture and effect of a woven fabric than the setting of the warp. If the setting is incorrect the resulting fabric will be unsatisfactory, no matter how well it is woven or how well-chosen the pattern, colors and materials. If only one reed is used it is necessary to limit one's work to the warps and weaves suited to that particular dentage. This seems a pity, as reeds are not costly.

THE THREE TYPES OF LOOMS

No single loom can satisfy everyone's requirements, so the individual must select from the three basic loom construction types. These are: the counter-balanced loom, which is the Colonial and European type of 4-harness loom; the countermarche, which is the Colonial and European type of multiple-harness loom; the jack-type, which is the modern, American, engineered rather than "Ancient Art" type of loom.

The counter-balanced is the simplest and the most commonly used type, because it can be built more cheaply or built at home. The loom has double action, with 4 harnesses hung in pairs so that two harnesses sink and two rise on shed-making. The technical limitation of this counterbalanced action is that the harnesses must move in pairs, so the loom is not suitable for the many off-balance weaves. This sinking-shed loom is actually a beginner's loom, and a counter-balanced loom should always cost considerably less than a comparable jack-type loom. The counter-balanced loom has several distinct advantages however; it is very smooth in action, and shed-making is very quiet. But no weaver should purchase a counterbalanced loom without recognizing its limitations.

The *countermarche loom* usually has 8 or 12, sometimes 16 harnesses. It is a rising-shed-sinking-shed action, with two sets of lams. Every harness must be tied to every treadle, making the tie-ups long and laborious, a distinct disadvantage, as multiple-harness tie-ups must be changed frequently. The loom, however, is lighter to operate than the jack-type, which may be important with 12 or 16 harnesses.

The jack-type loom is rapidly replacing the "ancient art" types in the United States because of its greater precision, versatility, and, in most cases, compactness. This is an engineered loom, and most jack-type looms have patented parts so that there are no plans available for building them at home. The jack-type is a rising-shed loom and each harness is individually controlled so that any combination of harnesses, both balanced and unbalanced, may be made. Thus there are no limitations in technical performance.

There are two major kinds of jack-type looms: those in which the harnesses are pulled up by overhead jacks, and those in which harnesses are pushed up by jacks which lie between the harnesses and the lams. The latter type gives a low loom, with no superstructure and no ropes or chains in sight—undoubtedly the handsomest of all looms. The harnesses rest in grooved wood, completely free. Pulled-up harnesses, on the other hand, are somewhat more efficient in that they require less treadle pressure to

raise them. In purchasing a 4-harness loom, or a relatively narrow 6 or 8-harness one, the sleek appearance of the push-up type may outweigh the treadle-weight matter, but with wide and multiple-harness looms, the weight is an important consideration.

Table looms, hand-operated, are jack-type. This type was discussed previously. However, the prospective purchaser should keep in mind that the most efficient and enjoyable weaving is done with a rhythmic motion, and weaving rhythm cannot be developed on a hand-operated loom.

CAN I GET A GOOD SECOND-HAND LOOM?

A question frequently asked by the prospective weaver. Mrs. Atwater has always had a good answer to this question, saying that a good second-hand loom is one of the rarest objects there is: a weaver will never part with a good loom, so such a loom becomes available only when a weaver dies, and weavers are notably long-lived. In most cases, a second-hand loom is a loom which a progressing weaver has found inadequate, and this means that the next owner will soon find this true too. While the experienced weaver can struggle with poor equipment and produce a good textile, the beginning weaver with much to learn of the technical side of weaving is in no position to cope with a bad loom. From the financial point of view, investing in a good loom is sounder, as a good loom can be disposed of at little loss, whereas a poor loom is a white elephant.

LOOM RECOMMENDATIONS

An odd fact in the pricing of new looms is that at the present time the price of a loom is no indication of its quality. The loom manufacturer is a small time craftsman and his costs are determined by such factors as the quality and specialty of his tools, his financial ability to purchase wood and hardware in large quantities, his relationship to his hired labor, the quantity of his output, his knowledge of handweaving and his engineering knowledge, the profit-margin he takes per loom, and the amount of money he spends on advertising and promotion. On the whole the manufacturers of the best looms spend little or nothing on advertising and promotion, as the advertising done by satisfied customers keeps production at peak level. Because of inefficiency on some of the above points, it often happens that the price of a mediocre counter-balanced loom is as high as that of a good jack-type loom, or even with a table loom will cost more than the best treadle loom.

How A Loom Should Be

In the December 1941 SHUTTLE CRAFT Mrs. Atwater had this to say, and we quote for your interest and information: "December is the month we reserve for a discussion of equipment and methods—not very exciting, perhaps, but perhaps useful.

"I feel I must say again some things that I have said many times before. As I go about the country to the various weaving "institutes" I am filled with amazement at the way so many of us appear willing to weave

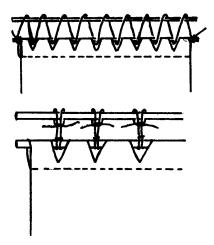
on poor looms, looms that are out of adjustment, looms that balk at doing the things a loom is supposed to do: to hold the warp stretched and even; to open a good, clear, wide shed—and do it easily and willingly—; to beat properly without undue effort on the part of the weaver. Weaving is a delightful occupation, but fighting a balky loom for each shot of weft is no fun at all.

"I should like to ask each member of the Guild to take time out this month to go over his or her own weaving equipment. Does it operate easily and smoothly? Is the balance correct: Is the beater rigid, and heavy enough to deliver a good beat? Is the warping equipment adequate and practical? Is there ample weaving space in front of the heddles? Is the frame solid in construction and absolutely "true"? Are the ratchets adequate? If you find a fault, do something about it. Of course the fault may not be in the loom but in the weaver. I have seen people working on good looms that were so far out of adjustment that good weaving was impossible. We become so interested in what we are making that we sometimes forget the loom, but that's really a poor excuse.

"If the fault is in the loom, it should be diagnosed and remedied if possible. If the frame of the loom is not solid and absolutely square, there is no cure and the loom should be junked. This may seem a hard saying, but it is the truth and there is no way of getting around it. Any other fault can usually be corrected."

LEARNED at the LOOM

If you use aprons on your cloth and warp beams but feel that the aprons have "the disadvantage that the slots are static so warp groups must always be the same size", then we would suggest



that you use two rods, one going through the slots in the apron and the second one laced to the first by a long, continuous cord. This leaves ample space to the almost any size warp groups wherever you wish.

If it is not practical for you to place the second rod on the back apron in this manner—as would be the case if you use the Swedish method of warping—then try tieing the second bar to the first with several short pieces of strong cord, at regular intervals.

It has always been our contention that there is more than one way to do a thing and that we should try out various methods, then select the one which best suits our individual needs.

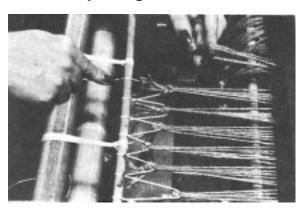
In this, Mr. Fred Pennington of Iowa agrees with us.

The method he uses for tying on the warp bouts, a method which he particularly likes, is used by many weavers and we give it here for the benefit of those who may not be completely satisfied with their present method.

"When the warp has been beamed on the loom, and ready to be tied to the cloth beam, I suggest that small portions be caught between thumb and first finger and pulled tightly to the breast beam. Clip the ends just where they touch the breast beam and then tie the ends in one knot.

"The bunches at each side of the warp should be a little less than $\frac{1}{2}$ inch wide and a little more than $\frac{1}{4}$ inch in width. The remainder of the bunches should be about $\frac{1}{2}$ inch or slightly more.

"After all the bunches across the end of the warp have been tightly drawn, cut just where they touch the breast beam, and tied, the next step would be to lace the warp to the rod on the cloth beam, by means of a long cord which has a tight twist—a cord that carpenters use for a chalk line, or a heavy fishing cord. This cord should be firmly anchored to the rod.



Then proceed to divide each small bunch of warp in the center—do not divide the threads in the dent. Put the cord through the division, then around the rod. Continue this all across the warp.

When the other side of warp has been reached, one may go back and draw each section to the proper tension until the last section of warp has been reached. This gives an even tension all across the warp. Then the cord is fastened firmly to the rod on the cloth beam.

"Now, instead of using rags, or roving or some heavy thread to pull the "V" shaped spaces together, one can put three shots of the same material or thread that is to be used in weaving the piece. Change the shed each time after a shot has been thrown, but do not beat until the third shot has been thrown. Then beat gently to draw the weft down as closely as desired to the rod attached to the cloth beam. Repeat this process again. It is seldom necessary to repeat it more than the third or fourth time before the "V" shape spaces are all gone, and you are ready to begin the weaving.

"I find that my beginning looks so much better. I do not have to remove a number of shots of carpet rags or roving from the end when the weaving has been completed. It also prevents the raveling of the weaving, and I do not have to take care of the extra hump which the carpet rags or roving make when I have woven enough of the material that it has reached the cloth beam."

We tried Mr. Pennington's method and found it very satisfactory with the following exception, and this should not deter the average weaver who ties up his warp, starts weaving and keeps going until the warp is completely woven off.

Practically all of our weaving is experimental and we frequently untie a section of the warp, rethread, tie on, and start again. This we found we could not do satisfactorily, without disturbing the tension completely across the web. Also we found this type of knot somewhat difficult to untie, however do not be influenced by our experiences. Do try it out for yourself—it may suit your needs better than your present method.

LOOM LANGUAGE

With one exception all the following definitions are taken from Harriet Tidball's WEAVER'S WORD FINDER. This is an excellent reference book which we use all the time. If you'd like a copy, they're still available from the Craft and Hobby Book Service, Coast Route, Monterey, California @ \$2.50.

brake—A mechanical arrangement for holding tension on a warp beam. Usually more satisfactory than a ratchet and prawl as it permits very fine adjustments.

dog—The prawl or small metal catch which fits into ratchet teeth to hold a beam in fixed position.

jack—The lever which lies either above the harness or between the harness and the lam on a jack-type loom, and serves to raise the harness.

lam—Horizontal lever tied between harnesses and treadle. (K. to W.)

multiple-harness loom—Literally would mean a loom with more than one harness. In actual usage means a loom with more than 4 harnesses.prawl—see dog.

ratchet—The toothed disk placed on cloth and warp beams which, with a dog to hold it in a fixed position, permits tension adjustment of warp. $shuttle\ race$ —A shelf, about $1\frac{1}{2}$ " wide, on the front of the beater just under the reed, on which the shuttle travels through the shed.

walking motion—The most energy saving and natural order of treadling, in which the right and left feet are used alternately.

QUICKIES

TEEN-AGERS--

Brighten up your blouses with a gay tie. Use fine, warp, preferably rayon, nylon or perle, sleyed 30 threads to the inch. For stripes use boucles, heavy rayons, linens or-beads or sequins string on your west thread.

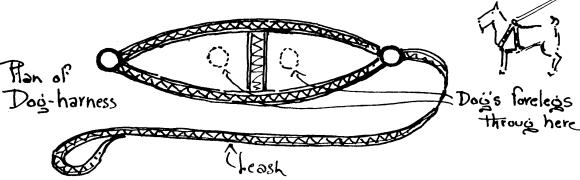
Use any treadling you wish but weave part that goes around the neck loosely, so it will hug.

Watch your edges -- they'll show.

Weave an extra piece for a bow tie for the boy friend. For birthday party gifts, boy! are these ties cool!

DOG HARNESS -- by Mary M. Atwater

And here is a novelty: my daughter has a small pup that requires restraint when taken on the street. She found it impossible to purchase a harness to her liking and made a simple, clever and practical one from a narrow inkle-woven band. The harness consists of two bands, joined at the ends and sewed into rings, with a short connecting band between them at the center. The leash strap is attached to the rings. For some dog-loving friend, what could be a nicer gift than such a harness, woven in colors to suit the complexion of the dog? A matching belt or girdle for the dog's owner would be nice with this.



THE WEAVER'S BOOK SHELF



by Boris Veren

What does the name of the English town Coventry bring to your mind? To mine, first, the figure of Lady Godiva who symbolizes a classic, a unique and in my opinion a commendable way of attacking the tax problem. I also think of the deadly bombing of Coventry in 1940 by the German Luftwaffe. But to my narrow specialized mind, Coventry celebrates the marriage of two of the most fascinating occupations I am familiar with: bookselling and weaving. Now, all three of the above images are—as they say—closely woven together!

How this occurred is related in a new book called THE SILK PICT-URES OF THOMAS STEVENS, A Biography of the Coventry Weaver and His Contribution To The Art of Weaving, With an Illustrated Catalogue of His Work, by Wilma Sinclair LeVan Baker.

But first to this pairing of bookselling and weaving, which of course today is dramatically celebrated by Craft & Bobby Book Service! During the very late nineteen hundreds and the first part of the 20th century, most booksellers in Europe and America carried a supply of woven book marks, which were ribbon pictures, woven with silk, and highly realistic in scene and manner of portrayal. These miniature woven pictures were called "Stevenographs" and for a time there was a craze for them. No Bible, prayer-book, or autograph album of the day was complete without its dainty bookmark. This craze continued for many years, then with the years, interest in them faded and gradually these quaint scenes of the past were consigned to darkened attics, bureau drawers and the fire. Finally the bombing of Coventry (where the Stevens looms were located) completed the eclipse. The Stevenographs Works in Cox Street were reduced to a mass of rubble. All the cherished awards won at industrial fairs throughout the world were demolished as were all the records of the greatest of the ribbon weavers. Hundreds of bolts of ribbon pictures stored in the warehouse, together with thousands of cards used for weaving these pictures were completely destroyed.

Today, "Stevenographs" are eagerly searched for by collectors, and what once sold for a few pennies now may command prices of \$40.00 and up each!

In one of my book columns, I bemoaned the disappearance of the woven dinner napkin ring. I could continue my sad wail about the disappearing napkin and place mat which seems to have been replaced by some monstrosity made by the paper industry. The passing away of the

woven book mark approaches a sad cultural calamity. I have seen books marked for their place by match books, pencils, corners torn from newspapers, and even defaced by bending the corner of the page itself! My evangelistic manifesto must now include: Up With the Woven Book Mark!

But to get back to the book. The work of Thomas Stevens, nine-teenth-century genius of the loom, is little known even to collectors of his work throughout the world, nor has the story of his life ever been told until now. This book, a labor of love, gives a homely portrait of the man and his success story. It also contains illustrations of seventy-three examples of his small silk masterpieces.

Born in 1828, the son of a poor weaver, Thomas Stevens entered the ribbon-weaving industry himself in 1854. About 1860, faced with financial ruin, he made drastic changes in his Jacquard Looms, adapting them to the weaving of book-marks and other woven novelties. Having an ingenious three-dimensional effect, these met with instant success. Later, they were mounted and sold as pictures. In 1870 the magazine *Bookseller* said that "Bibliographers will have to coin a new word to describe the works in which he is still unrivalled—works of art, which in future ages collectors will glory and pride themselves upon the number and beauty of their specimens".

The book has two wonderful color plates of Mr. Stevens' work. One is a remarkable tour-de-force: Leda And The Swan. This picture was woven in 1890 for the French Trade on the largest tier batten loom ever made: 10 tiers, 18 spaces and 180 shuttles! The size of this was only $3\frac{3}{8}$ " by $4\frac{3}{4}$ ". The other color plate is a panoramic reproduction: The Lady Godiva Procession, woven in pure silk, complete with the nude Lady on a white horse, bright banners, thirteen figures on horseback, facades of buildings, spectators and even a Peeping Tom on the sign of an inn.

To give you some idea of the subject matter, here are the titles of some of the illustrations from Mrs. Baker's collection: The Finish (horse race); Landing of Columbus; God Speed The Plough; The Good Old Days; Niagara Falls; Stephenson's Triumph; Sixty Miles An Hour; John L. Sullivan; Tower Of London and Tower Bridge; Her Majesty Queen Victoria; George Washington; Dick Turpin's Ride to York On His Bonnie Black Bess, etc.

These pictures were usually woven with 10 or 12 colors. Perhaps some of the elderly readers may have seen one of Mr. Stevens' portable looms at one of the industrial fairs held throughout the world'... the Chicago 1893 world's fair, or the St. Louis 1904 exposition. Unhappily the book does not illustrate these Jacquard looms but we are told that they had 6 tiers or more of shuttles. And as for the number of cards that were used... well, for one colored picture seven inches long, a chain of more than two-thousand perforated cards was necessary. All this information plus details about Mr. Stevens' other products, his valentines, fraternal order badges, military braids, etc., can be found in the book published by Exposition Press at \$7.50.

SHUTTLE CRAFT

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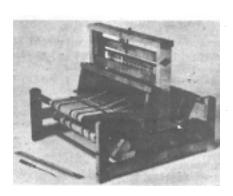
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