The University of North Carolina
at Greensboro

JACKSON LIBRARY

CQ
no.891

Gift of Sue Wynne Johnson.

COLLEGE COLLECTION

JOH SON, SUE WYNNE. Low-Cost Home Furnishings. (1972) Directed by: Dr. lara Ridder. Pp. 107

Interior furnishings for an entire apartment were constructed at a low cost by using ordinarily discarded objects as the basis for construction. Approximately thirty dollars was spent for the items used such as stain, glue, grout, and rope. This thirty dollars included all the expenses with the exception of the labor, and was considerably less than the $1,600 cited in the introduction as the minimum amount required to start housekeeping in such an apartment.

The discarded objects used included crates, screen doors, tires, kegs, cans, baskets, and wire spools. These were categorized by rectilinear and cylindrical shapes and miscellaneous items. Such furnishings as sofas, tables, room dividers, and beds were made from discarded objects in each of these categories. These were described and illustrated by photographs. A floor plan of an apartment furnished entirely from the objects constructed was included.

The results of this study could be used for ideas for furnishing an entire house or apartment or individual ideas could be used to make accent pieces to complement acquired furnishings. These ideas might be helpful to low-income groups, for example those who would be moving into new housing units such as the Turnkey projects, and to people in any income level who are interested in creating their own interior furnishings.

Furnishings can be produced at a very low cost if ordinarily discarded objects are used as the basis for construction. If the designs are aesthetically pleasing and take into consideration the inherent nature of the materials used, "low cost" need not be synonymous with

"less desirable". It is especially important for budget-minded people to become aware of and know that the simplest natural materials can be used in creating pleasing home furnishings, and that many objects can be utilized for purposes beyond their intended original use.

LOW-COST HOME FURNISHINGS

by

Sue Wynne Johnson

A Thesis Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Master of Science

Greensboro
1972

Approved by

Thesis Adviser

APPROVAL PAGE

This thesis has been approved by the following committee of the Faculty of the Graduate School at The University of North Carolina at Greensboro.

Oral Examination
Committee Members

Jane V. Carol

Eunice M. Beamer

Andrew Martin

July 23, 1971
Date of Examination

ACKNOWLEDGMENTS

The author would like to express her appreciation to her thesis advisor, Dr. Clara Ridder, Professor in Home Economics, for her advice and guidance given so generously throughout this study.

Appreciation is extended also to Dr. Jane Crow and Dr. Eunice Deemer of the Home Economics Department and to Mr. Andrew Martin of the Art Department for serving on this thesis committee and for their guidance during this study.

The photographs presented in this study are of furnishings constructed by the author for this study with the following exceptions:

Figures 20, 76, 83, 103, 118, 119, 120, 121, and 122 were constructed by Don and Joy Tesh, Eden, North Carolina.
Figures 80, 81, 82, 84, 85, 86, and 124 were constructed by Liberia Crafts, Inc., Monrovia, Liberia.

396188

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER I

INTRODUCTION AND PURPOSE

In Changing Times, The Kiplinger Magazine, it was stated: "Start out today to set up housekeeping in an unfurnished one-bedroom apartment and you'll spend around $1,600 just to establish a modestly comfortable home. Add a few extras to make life more liveable and the figure will jump to $2,000....The average bride and groom spend $3,000-plus setting up a new home now" (14:25).

New approaches need to be sought to help low income groups, as well as all persons who are budget-minded, in furnishing their homes and apartments at a lower cost, a cost more realistic for an already over-stretched income. One approach to this need for low-cost interior furnishings is the use of objects ordinarily discarded as the basis of construction of furnishings. Such discarded objects as kegs, crates, and baskets could be used in the construction of interior furnishings. "Between three and four billion feet of lumber is used every year in the construction of boxes and crates. Once they have served their original purpose, they are usually thrown away or otherwise wasted. If it were possible to use this lumber for construction purposes, about 400,000 average-size frame houses could be erected" (17:vi).

As a part of this approach to low-cost interior furnishings, it is possible that the teaching of art should include not only the Great Masterpieces but also an appreciation of all materials, especially natural materials that abound in the world. In gaining this appreciation,

people should learn to see design in all forms, to see that even ordinarily discarded objects can be used to create beautiful as well as functional objects. Furnishings that are made of natural materials, which incorporate proportion, harmony, and unity of design, can be aesthetically pleasing, functional, and low in cost.

The purpose of this study was to indicate ways in which ordinarily discarded objects may be recycled into low-cost interior furnishings for an entire house or apartment, and to show how these furnishings would look in a living situation. It was a further purpose to study the shape and strength of these discarded objects and to suggest furnishings appropriate for them.

CHAPTER II

REVIEW OF LITERATURE

Literature from the past forty years pertaining to making interior furnishings from discarded objects was reviewed. In this review, the objects and furnishings were divided according to their shape in order to follow the comtemplated format of the findings of this thesis. These shapes were: rectangular, such as crates, boxes and doors; cylindrical, such as kegs, wire spools, and cans; and miscellaneous, such as a sewing machine stand, a school desk, and a set of car doors. The following discussion of literature cited includes furnishings made from objects in each of these shapes. Some of the projects were so simple that young children could make them, whereas others would require at least an elementary knowledge of carpentry. All of these sources could be useful to the budget-minded person who wishes to modify and create furnishings to meet his individual and family needs. Such projects could be the inspiration for quite individualistic and unique creations.

Rectilinear Projects Utilizing Crates, Boxes and Doors.

The re-use of crates and other wooden discards was promoted by the U. S. National Committee on Wood Utilization in its booklets, You Can Make It (17) and You Can Make It For Camp and Cottage (16). Its projects included a number of useful furnishings such as a bench (17:19), footstool (17:25), and bookcase (17:25) made from various sizes of crates

and odd pieces of lumber. Some knowledge of carpentry and its equipment would be needed in preparing such lumber. It was suggested that a novice should purchase lumber pre-cut to the desired measurements.

Cushman, in Management in Homes (8), also recognized the value of crates in interior furnishings, especially in giving extra storage space in closets (8:40), at the sink (8:127), and in the laundry (8:215). Suggestions for extra storage was the purpose, also, of the Michigan State University Extension Bulletin #E661, Furniture Space Savers: Boxes and Boards (3). This bulletin illustrated elementary storage pieces made from cardboard boxes which were covered with colorful paper.

Champion's Creative Crate Craft (7) also suggested various uses for crates in interior furnishings. He used orange crates having solid end pieces to make small objects such as bookends. Most of his projects could not be made with the present day slat-ended crates which are so readily available. However, he did suggest storage pieces such as kitchen and pantry shelves and a desk.

Ballinger and Vroman included a very interesting wooden box project in their Design: Sources and Resources (2). Their description of it is: "Solid geometric and irregular forms arranged within rectangular boxes using imagination and ingenuity create a wall panel that emphasizes the solidity and textural variety of the wood" (2:77).

Dorothy F. Brown stated that "Gold is where you find it.... Imagination is how you use it" (5:1). Her "gold" included wooden crates, polyfoam packing material, cardboard tubes and boxes, and inner tubes. In her pamphlet, Low Cost Furniture (5), she listed possible sources of the above materials as well as numerous finished furnishings which could be

made. The list included a bookshelf made from cardboard and cans, a seat-chest made from a tulip crate, and a desk from two lettuce crates, two tomatoe flats, and a piece of plywood for the top. This pamphlet should prove useful to people who want to experiment with making their own furniture by using discarded objects.

Recent articles on furnishings from wooden crates were in American Home (1) which showed crates stacked in various arrangements to form bookcases, and Popular Science (4) which illustrated tall thin boxes mounted on the wall to display art objects. The bookcase arrangements should stimulate anyone interested in a unique bookcase. The drawings of arrangements would be most helpful and inspirational to anyone interested in seeking solutions to his individual needs.

Furniture from wooden hollow-core doors was suggested by Livingstone in Make-It-Yourself Furniture for the Home Craftsman (12). To this author, his most interesting idea was the use of a door which was supported on two boxes. This door formed a base for a dresser on one end while the other end was used as a coffee table (12;106). A dining table was made with a flush door as the top and panels of a single-panel door as the supports (12;102). How to Build Outdoor Furniture (10), a Sunset Book, included projects using flush hollow-core doors. An interesting project shown was a dining-coffee table made from a door and two flue tiles (10;28), the height of the table depending on the vertical or horizontal placement of the tiles.

Cylindrical Projects Utilizing Kegs, Wire Spools, and Cans.

Cylindrical wooden discards were represented in Make It For the Children (11) by Kirk. He suggested two projects from kegs, a household

utensil holder and a storage piece (11:34), both very easy to prepare. New Furniture from Old (13), N. C. State Agricultural Extension Service Bulletin #19, suggested two floor lamps, one using a peach basket base, the other, a churn for the base. Most of the projects in this bulletin were based on the use of old furniture, such as churns and pie safes.

Do It Yourself Home Decorating Ideas: Favorites From Home Economics Teachers (9) included a number of cylindrical objects made into interior furnishings such as the following: a bushel basket end table (9:8), nail keg footstool (9:14), cheese box ottoman (9:114), keg end tables (9:115), wire spool tables (9:119), and whiskey barrel chair (9:101). These projects were useful in suggesting ways to use wooden cylindrical objects in interior furnishings. The following projects indicated ways to use metal cylinders: tire rim stools (9:115), coffee can umbrella stand (9:82), juice can footstool (9:115), milk can bar stool (9:242), milk can lamp (9:126), soup can spot light (9:135), and a can accent lamp (9:136). There were also several lamps made from flower pots (9:129, 137), a gallon jug (9:135), and bottles (9:136) that were quite interesting. This book contained numerous ideas for inexpensive furnishings and pictured finished projects in a furnished setting, showing how professional these projects could look.

Miscellaneous Projects Utilizing a Sewing Machine Stand, a School Desk, and a Set of Car Doors.

There were a few interior furnishings that did not fit into either rectilinear or cylindrical classification. These seemed to the author to deserve mention due to the imagination shown in the change from their original use to their use as interior furnishings. The Do It Yourself

Home Decorating Ideas book (9) included the following ideas in this category: a paper mache mirror frame (9:28), a cutting board mounted on an old wrought iron sewing machine stand (9:64), a love seat made from an old baby bed (9:112), an end table from a child's school desk (9:118), and a ceiling light using the styrofoam dividers from an apple box (9:128). The value of these projects is that they demonstrated that almost anything, with a little imagination and ingenuity, could be used as a functional interior furnishing. One of the most interesting projects, described by Simpson in Fantasy Furniture (15), was a walnut buffet, the doors of which were from a Fiat automobile (15:95).

This literature reviewed suggested sources of discarded objects as well as furnishings which could be made. The following three sources would be suggested as the most beneficial: Low-Cost Furniture (5) was most inspirational in its listing of discarded objects and their sources and interior furnishings that could be made from these objects. You Can Make It (17) was a fascinating catalog of wooden crates and crate furnishings including very simple as well as fairly complicated projects. Do It Yourself Home Decorating Ideas (9) included such a variety of ideas that everyone using it should be able to find something applicable in it, and the presentation of finished projects in furnished settings reinforced the idea that these projects could be professional and their creators could be proud of them.

While the preceding literature suggested ways to use discarded objects to make specific items that could be used to supplement traditional furniture, no book or brochure was found that covered the furnishing of an

entire house or apartment. The main purpose of this thesis was to construct furnishings for an entire house or apartment.

CHAPTER III

PROCEDURE

Objects and materials which are ordinarily discarded were selected and a tentative list of furnishings for a typical home or apartment was made. The furnishings included such items as beds, sofas, seats, and various storage pieces.

Construction of Furnishings.

Designs and sketches of such furnishings were prepared and plans for their construction were made. Additional materials that the designs required were obtained as well as the tools and equipment needed. Forty-seven home furnishings were completed. Black and white photographs, with the exception of one mechanical drawing, were made of various steps in the construction of the furnishings and color photographs were taken of the completed furnishings in an apartment setting.

Presentation of the Study.

The furnishings were categorized by the shape and nature of the materials used and the method of construction. A description of each completed furnishing was written containing the following information:

1. Discarded objects used and their source.
2. Other possible sources of similar materials.
3. Tools used.
4. Method of construction.
5. Finished measurements of furnishings.
6. Problems encountered and solutions.
7. Illustrations of variations of selected furnishings.

A floor plan was drawn illustrating an entire apartment furnished with the items completed.

CHAPTER IV

RESULTS

In constructing interior furnishings for an entire house or apartment from discarded objects, a tentative list of needed furnishings was made, sources of discarded objects were studied, and some of these objects were gathered. Tools and equipment needed to convert these objects into interior furnishings were gathered. These included: a hammer, a screw driver, tile clippers, scissors, a hack saw, a paint brush, nails, glue, wood stain, wood filler, and turpentine (Figure 1). The discarded objects were then categorized by their shape - rectilinear, cylindrical, and miscellaneous - for thesis treatment. General information about the discarded objects and their source is stated. Specific furnishings made from these objects are described and descriptions of their assembly and attendent problems, stated. Photographs illustrate their use in an apartment setting.

Furnishings Made From Rectilinear Objects.

The rectilinear objects were divided into three groups: melon crates, other wooden crates, and screen door frames. The discarded objects in each group and the furnishings made from these objects follow.

Melon Crates

Melon crates were abundant at fruit markets and grocery stores throughout the summer months. They were either free or sold for ten cents each. There are two sizes of crates, $13\frac{1}{2}$" x $25\frac{1}{2}$" x 13" and 13" x $25\frac{1}{2}$" x 13", and care had to be taken in acquiring those of the same size for each project. It was also necessary to use all weathered crates, those

Figure 1. Tools and equipment used.

left over from the previous season, or all new crates in each project since the weathered wood stained darker than the new wood.

Melon crates proved to be quite satisfactory components for interior furnishings since they were: readily available, inexpensive, and a convenient size (e.g. 25½" is an acceptable width for a sofa and 51", or two crates wide, is an acceptable width for a bed). In addition, melon crates could easily be reinforced to support a person seated or prone. To reinforce melon crates: 1. The slats from all three sides were removed (Figure 2). 2. The crates were nailed back together using four or five slats on each side. The extra slats and end pieces were obtained from other crates that had been knocked apart. Slats from one and one-half crates were required to reinforce one crate. 3. Extra end pieces were nailed under the top slats for projects such as sofa, bed, and seat where the 25½" length of the slats needed reinforcing to sustain the weight of a person sitting or lying down (Figure 3). When a dimension less than 25½" was desired, the slats were cut to the desired length before the crate was reassembled. When a dimension greater than 25½" was desired, two crates were joined together (Figure 4). 5. If a solid end piece was desired, extra slats would be nailed to the end piece before the crate was reassembled. 6. The nails were saved as the crates were knocked apart and used again in reassembling them.

There were a few problems involved in reinforcing the melon crates and using them as components of interior furnishings: 1. The slats tended to split in the process of being knocked loose from the end pieces of the crates. Solution: A piece of wood was placed between the slat and the hammer to distribute the force of the hammer thereby reducing the

Figure 2. Melon crate with slat knocked loose.

Figure 3. Melon crate with end piece used as reinforcement.

Figure 4. Two melon crates nailed together to obtain greater height.

splitting. Also, some of the split slats were cut and used for projects requiring shorter slats. 2. There was lettering on some slats and end pieces. Solution: In reassembling the crates, the printed side of the slats was turned away from the side of the furnishing which was going to be seen, or an opaque stain was used to cover the printing. If neither of these solutions was satisfactory for the project, the lettering was sanded off, or unlettered slats were used and the lettered ones were saved for projects where they would not show.

Bed. A bed was constructed from twelve reinforced crates (Figures 5, 6, and 7). The finished measurements of this bed were 13" x 78" x 51". A temporary bed of twelve un-reinforced crates was also made (Figure 8) but its slats cracked under concentrated weight (e.g. a person kneeling on the bed). The reinforced crates proved to be much more satisfactory since they could support the weight of a person sitting or lying down.

Seats. A seat was constructed from two reinforced crates (Figures 9, 10, and 11). Its finished measurements were 13" x 27" x 25½". The cushion could be covered, or the whole seat draped. A very informal seat was made from one crate, one cushion, and a blanket or afghan (Figure 12). This seat measures the same as the crate used. The cushion distributed the weight enough so that this crate did not need reinforcement.

Sofas. Reinforced melon crates were used to make three sofas. The finished measurements of each sofa were 13" x 65" x 25½". For sofa (a), five reinforced crates were nailed together (Figures 13, 14, and 15). The slats on one end were placed so that a 4" x 22" x 22" drawer, found on a trash dump, could be inserted. This drawer rests on the bottom

Figure 5. Bed platform made from twelve reinforced crates.

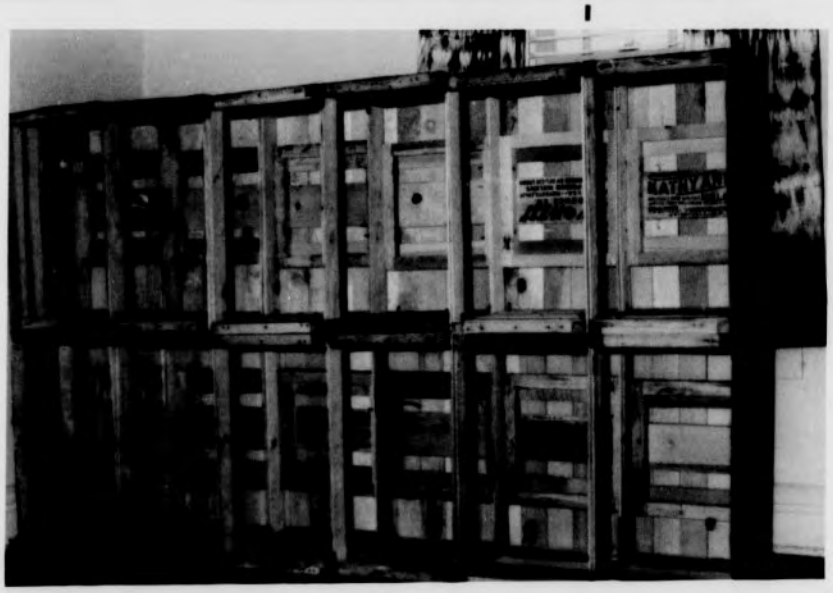

Figure 6. Bed platform inverted showing reinforcement.

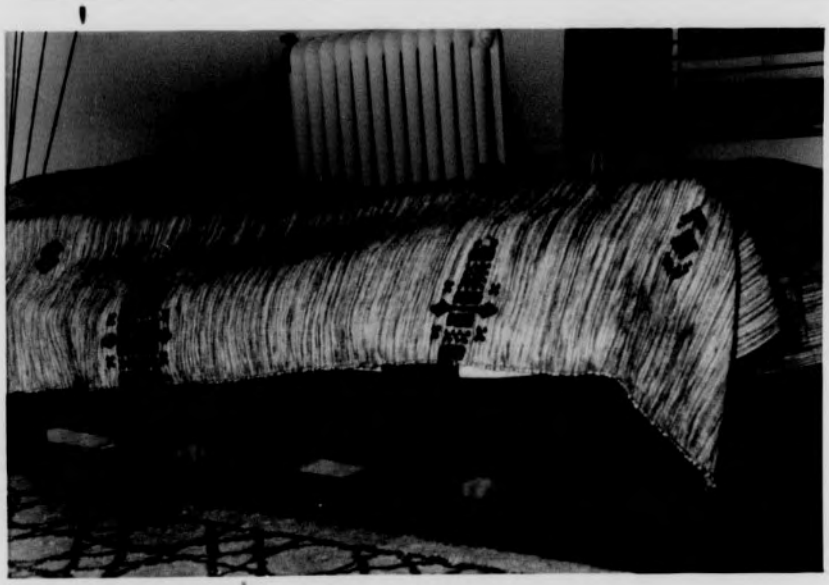

Figure 7.
Bed Completed.

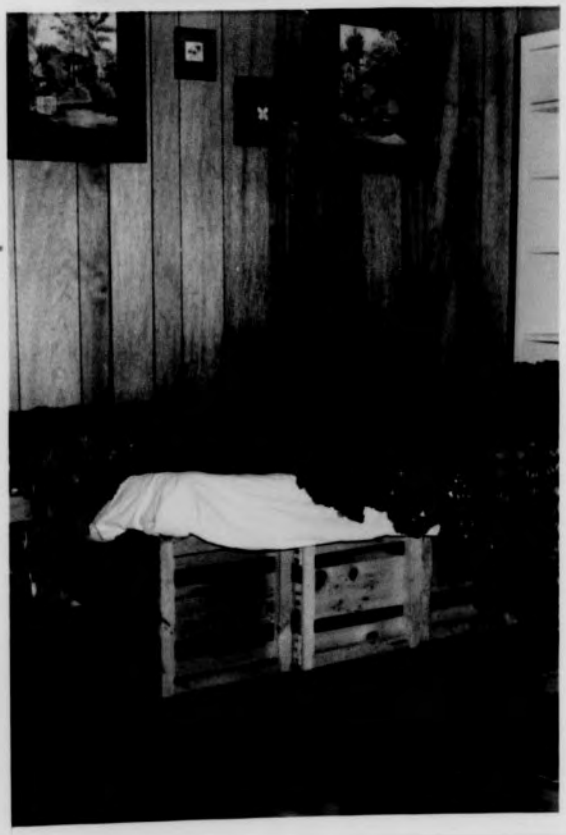

Figure 8. Temporary bed made from twelve un-reinforced crates.

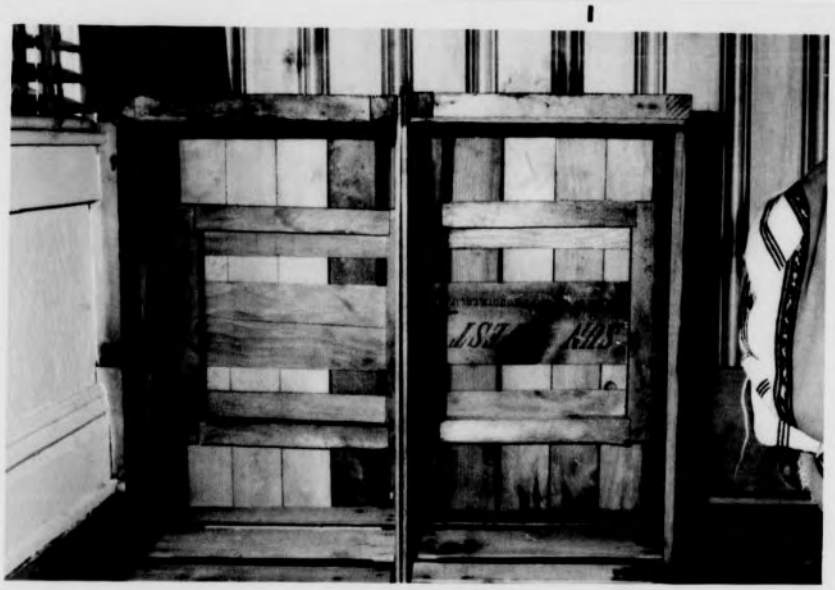

Figure 9. Seat platform inverted showing reinforcement.

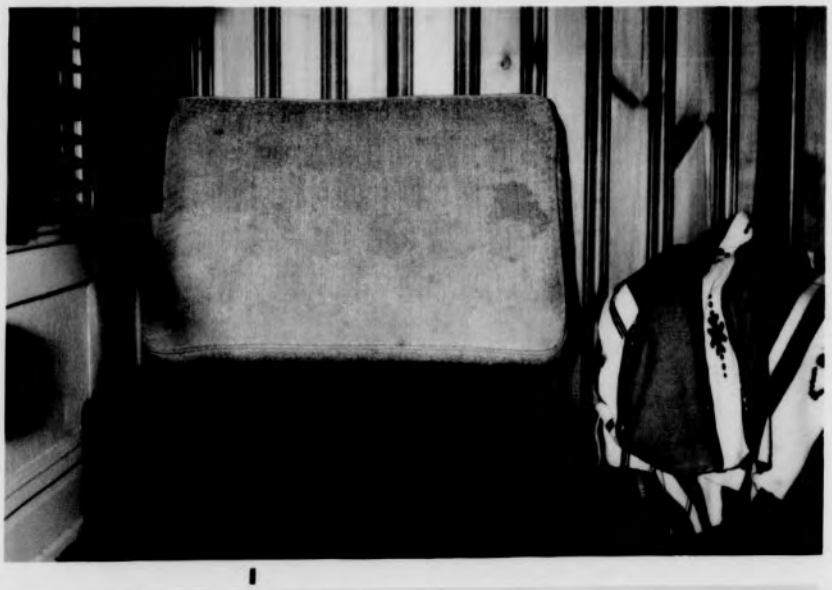

Figure 10. Seat platform and cushion.

Figure 11. Seat completed.

Figure 12. Informal Seat.

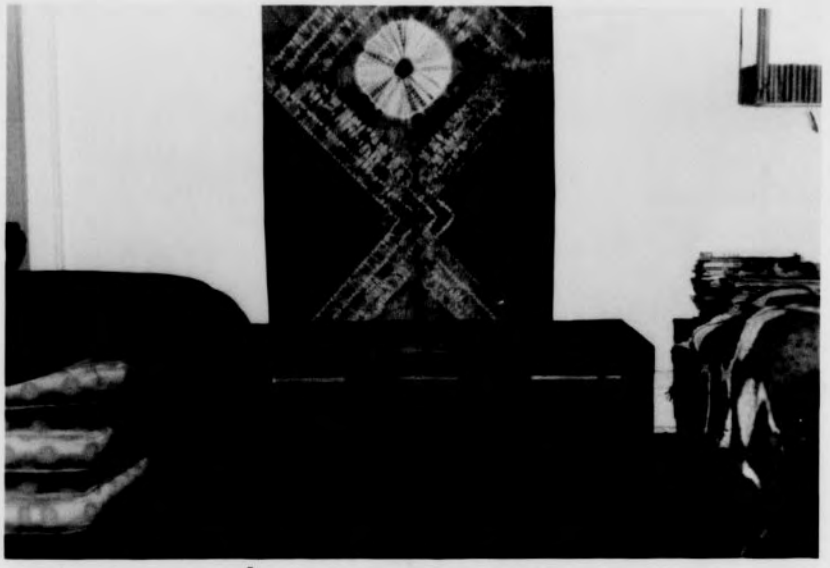

Figure 13. Sofa (a) platform and cushions.

Figure 14. Sofa (a) drawer.

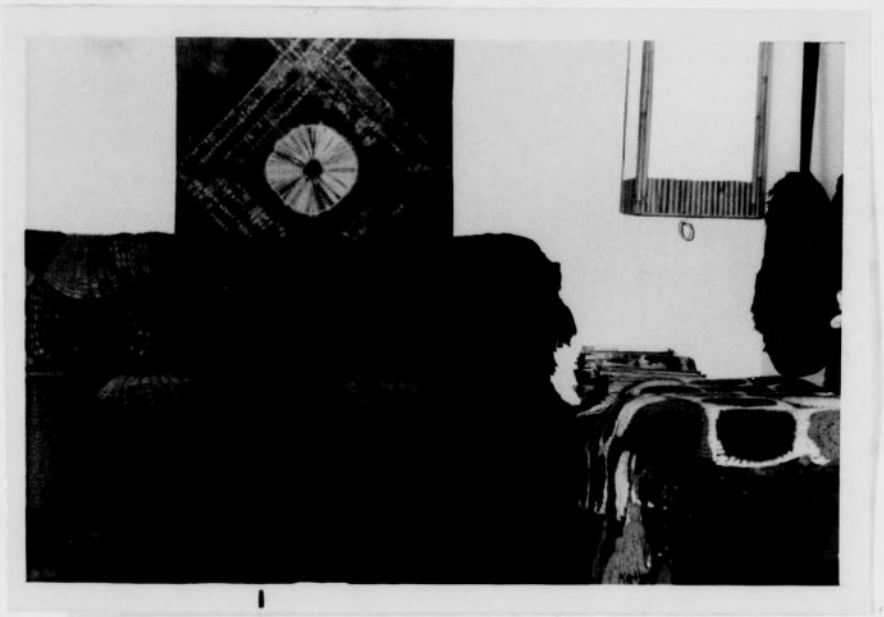

Figure 15. Sofa (a), on left, completed.

slats on both sides of the first crate. For sofa (b), five crates were joined in the same manner, but space was left on both sides of the cushions for use as end tables (Figure 16). Sofa (c) is also five reinforced crates with one end used as an end table (Figure 17). These end tables were finished with tiles from a discontinued line discarded by a tile company. The cushions were discarded by an upholstery company that went out of business. Scraps from a company that makes foam rubber or polyurethane foam products could also be used.

Room Divider-Bookcases. A room divider-bookcase was constructed from twelve crates that were reinforced with five slats on two sides and four slats on the third side (Figures 18 and 19). The finished unit extended to the ceiling and measured 9' x 68" x 13". The unit was designed so that the positive spaces, the crates, could be used for storage while the negative spaces, the spaces between the crates, could be used to display art objects. The top two crates had to be added to the unit after it was in a vertical position. For optimum support, a spring could be inserted between the top crates and the ceiling. Another room divider-bookcase was made from crates (Figure 20). This unit did not extend to the ceiling. The crates were only stacked, not nailed, together. This unit is used to house television and stereo sets as well as books, plants, and art objects.

Stool. A stool was made from one crate that had been reinforced with additional slats on all four sides (Figures 21, 22, and 23). The finished measurements of this stool were 19" x 13" x 13". The slats were cut at a length of nineteen inches and stained on both sides before the crate was reassembled since the spaces between the slats made the inside

Figure 16. Sofa (b).

Figure 17. Sofa (c).

Figure 18. Room Divider-Bookcase as seen from study area.

Figure 19. Room Divider-Bookcase as seen from foyer.

Figure 20. Room Divider housing television and stereo.

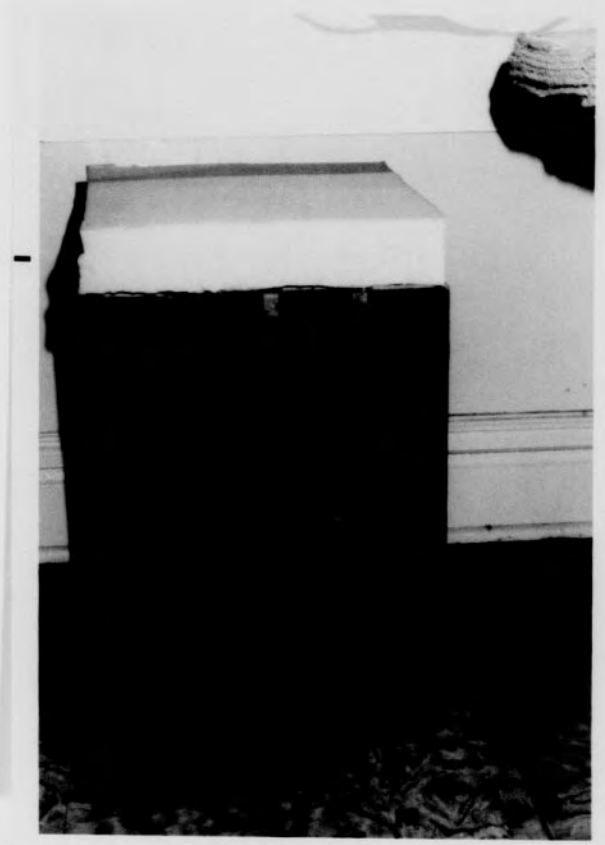

Figure 21. Stool being made from a reinforced crate and a foam rubber cushion.

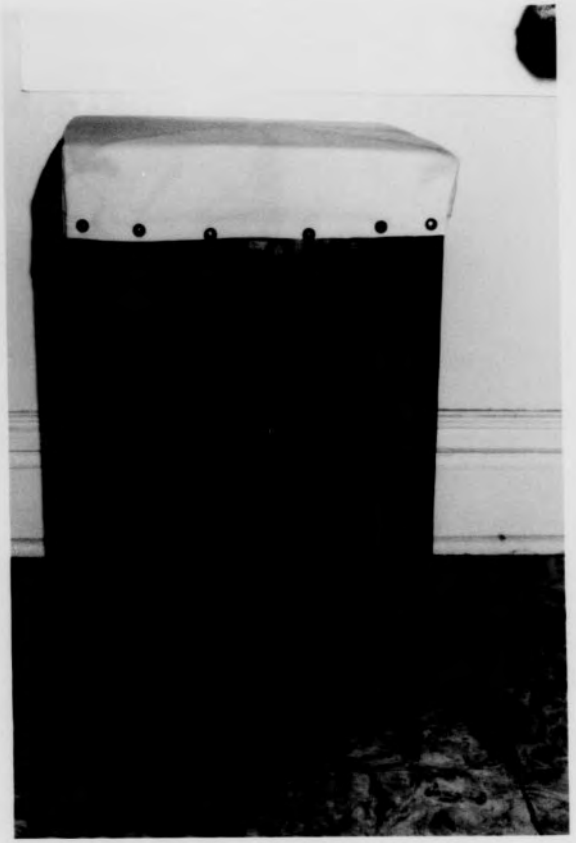

Figure 22. Stool with cushion covered and tacked to crate.

Figure 23. Stool completed.

of the stool visible. The foam rubber cushion was cut with a single-edged razor from a scrap given away by a company that makes foam rubber. The cloth was measured and cut with an allowance made for the edges to be turned under and nailed to the crate with upholstery tacks.

Counters. Counters from crates and tiles were constructed for use in the kitchen. Two counters with storage under them, each measuring 35" x 13½" x 13", were made for each side of the range (Figures 24, 25, and 26). A counter, or eating surface, with storage underneath it was also constructed from crates and tiles (Figures 27 and 28). The finished measurements of this counter were 30" x 26" x 27". For each of these counter-storage pieces, two crates had to be nailed together to obtain the desired heights. The slats on the upper crates were shortened before the crates were reassembled. Due to the narrowness of the opening, the slats on the upper crates were stained before the crates were reassembled. Extra end pieces could be added to provide shelves for added storage facilities (Figure 29).

Mirror. A mirror was made from three crate end pieces nailed together (Figures 30 and 31). The finished measurements of this mirror were 39" x 13½" x 1". The twelve-inch mirror squares were remnants from a furniture show. Rope, stained the same color as the end pieces, was added as a unifying element.

Hanging Lamp. A hanging lamp was constructed from two crates (Figures 32 and 33). The finished measurements of this lamp were the same as for a crate. The slats for each crate were cut to a four-inch length before each crate was reassembled. Wood strips 25½" x 1" x ¼" were nailed to the four corners to join the two crates. A porcelain

Figure 24. Counter with a tiled surface made from two crates nailed together.

Figure 25. Counter as used in kitchen.

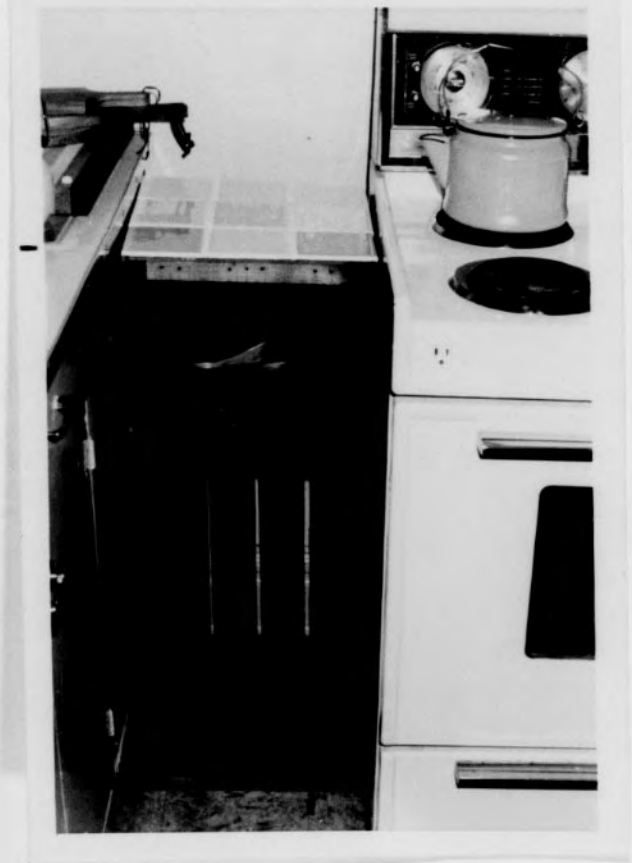

Figure 26. Counter completed.

Figure 27. Counter-Eating Surface made from eight crates with a tiled surface.

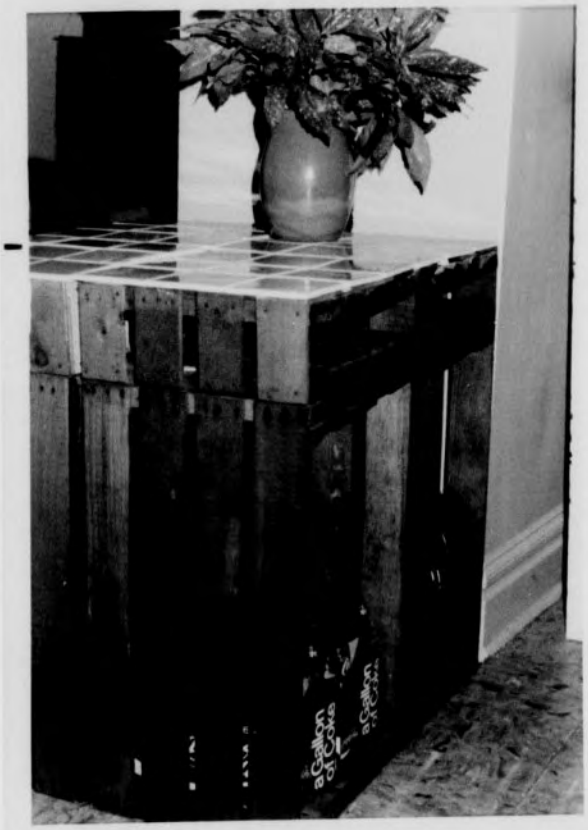

Figure 28. Counter-Eating Surface completed.

Figure 29. Melon crate with end piece added for shelf.

Figure 30. Mirror made from three melon crate end pieces.

Figure 31. Mirror completed.

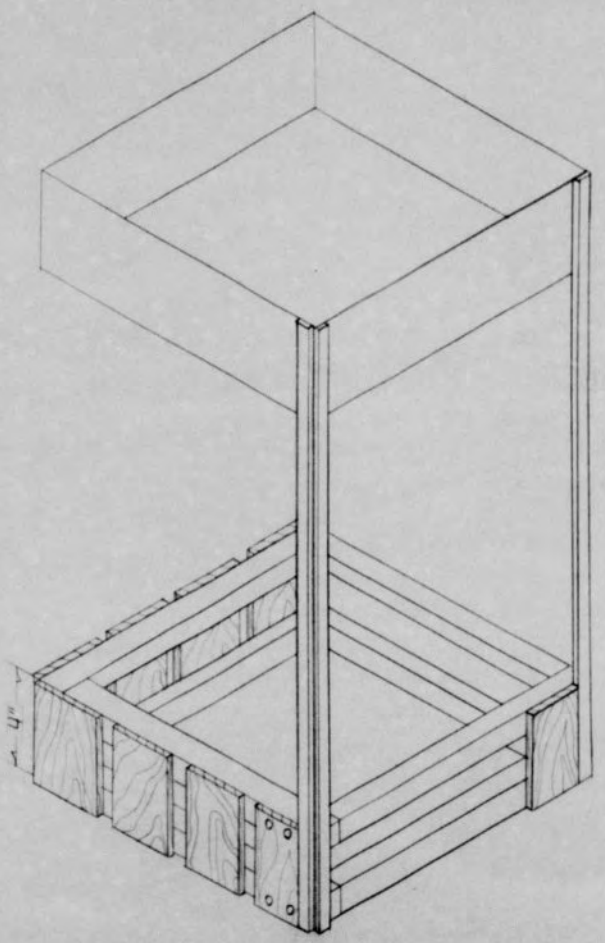

Figure 32. Lamp construction from two crates. The slats on each crate were cut to four-inch lengths.

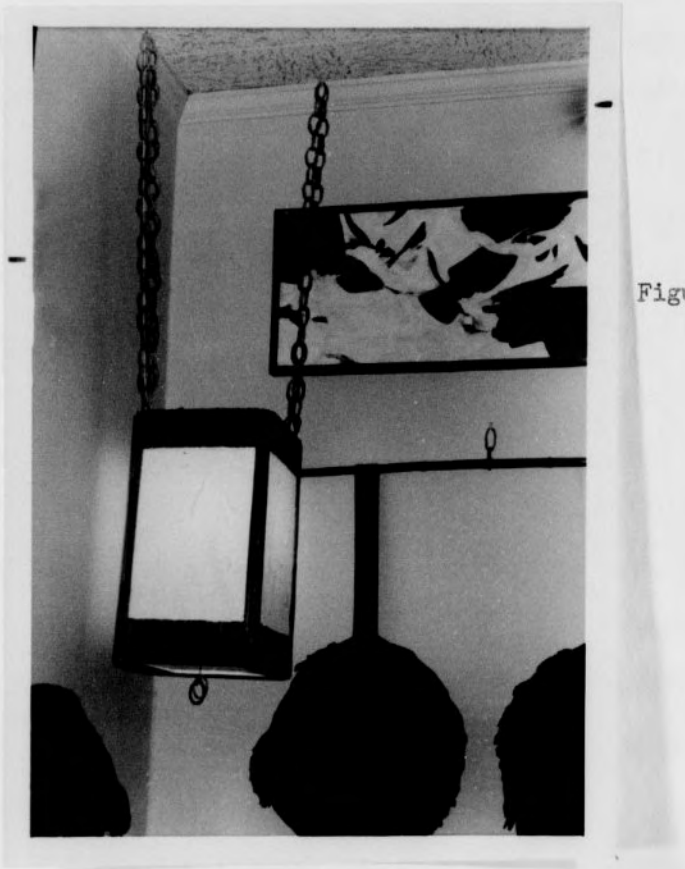

Figure 33. Lamp completed.

light fixture was screwed to the interior end piece of one of the crates and this fixture was wired to a cord and plug. Someone with electrical experience should do this work. First vellum, and then rice paper, were glued over the openings, covering all four sides of this frame. To finish the lamp, bamboo strips twenty-five and one-half inches long, split lengthwise, were nailed to cover the corner strips of wood. Bamboo strips four inches long, also split lengthwise, were nailed to cover the four-inch long slats on both ends of the lamp. Small-headed nails were used. Finally, hooks were screwed into opposite corners of the top of the lamp, and the lamp was hung by a rattan chain from these hooks and two other hooks that had been screwed into the molding at the ceiling. The same lamp could be used with a bamboo support as a floor lamp (Figure 34). Bamboo grows wild in the southern part of the United States. Another source of bamboo is a carpet store since carpets are often rolled onto bamboo poles when shipped.

Storage Pieces. Melon crates were found to be very convenient as components of storage pieces. They could be used as storage in a workshop, in the sewing room, and for record and book storage (Figures 35, 36, 37, 38, 39, 40, and 41). An added advantage of using melon crates as components of furnishings was that they could be arranged and tested to see if that arrangement fulfilled the need; if not, rearranged before they were reinforced, stained, and nailed together.

Other Wooden Crates

There was found to be a variety of wooden crates other than melon crates. Investigation of the following sources proved fruitful, and could

Figure 34. Floor lamp with rectilinear shade that could be made from a melon crate.

Figure 35. Melon crates used for workshop storage.

Figure 36. Melon crates used for sewing room storage.

Figure 37. Melon crates used for record storage.

Figure 38. Melon crates used for book storage.

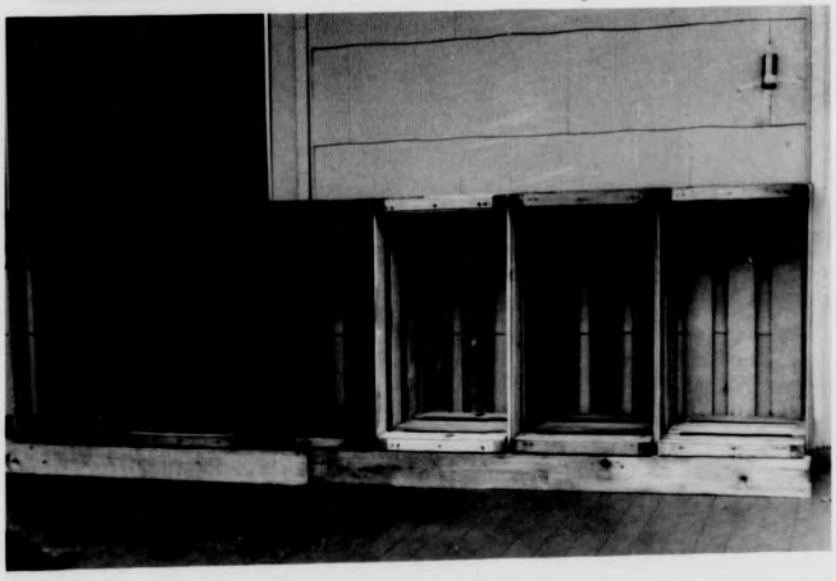

Figure 39. Melon crates suggesting a possible bookcase arrangement.

Figure 40. Melon crates suggesting a possible bookcase arrangement

Figure 41. Melon crates used as supports to elevate a bookcase.

also lead to new sources for crates: music stores (piano and organ crates), fruit markets and grocery stores (crates for vegetables and fruits such as cabbage, tomatoes, and grapes, and soft drink crates), garden supply stores (flower bulb crates), and glass companies (glass and mirror crates). Heavy equipment, such as air conditioners, is usually stacked for shipment on wooden platforms that could be knocked apart, or used as they are, as components of interior furnishings.

Mirror. A mirror was made from the end piece of a tulip bulb crate (Figures 42 and 43). The finished measurements of the mirror were 31½" x 25" x 1½". Four twelve-inch mirror squares, remnants from a furniture show, were glued to the center of this end piece. Bamboo that had been split lengthwise was then glued and nailed to the sections of the end piece that had not been covered by the mirror squares. Bamboo strips were also used to cover the edges of this end piece.

Stool. A stool was constructed from a mirror crate and slats knocked apart from a heavy equipment platform (Figure 44). The finished measurements of this stool were 15" x 14" x 14". The base, made from four fourteen and one-half inch long slats glued together at right angles, was glued and nailed to the inside of the top of the crate. The foam rubber cushion was added by the same process as for the previous crate stool. On completion of this stool, it was decided that a wider base, one that would extend to the dimensions of the top, should have been used. This wider base would have been more in proportion to the top and would have made the stool less likely to tip over when in use.

Shelves. Soft drink crates were used as shelves to display small objects (Figure 45). They could be painted or used as they were found.

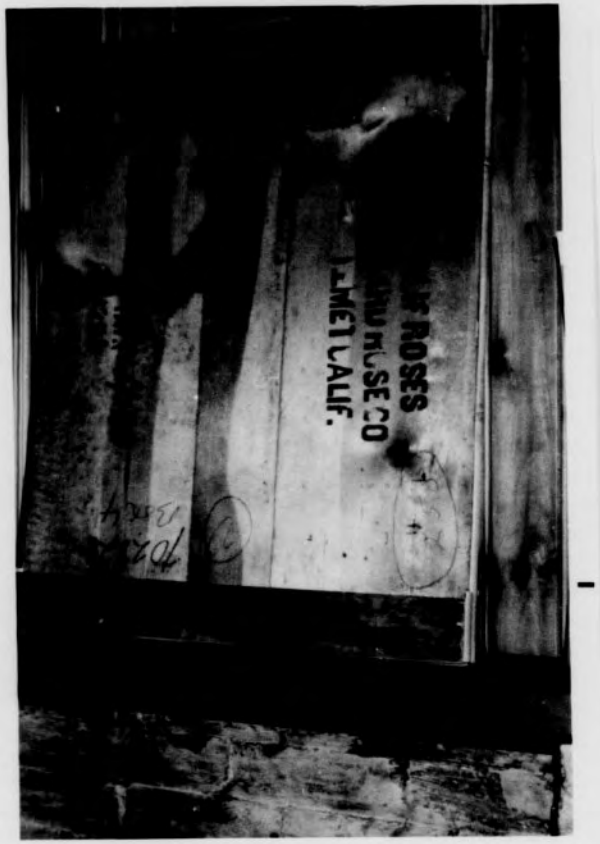

Figure 42. Flower bulb crate end piece used as the foundation for a mirror.

Figure 43. Mirror completed.

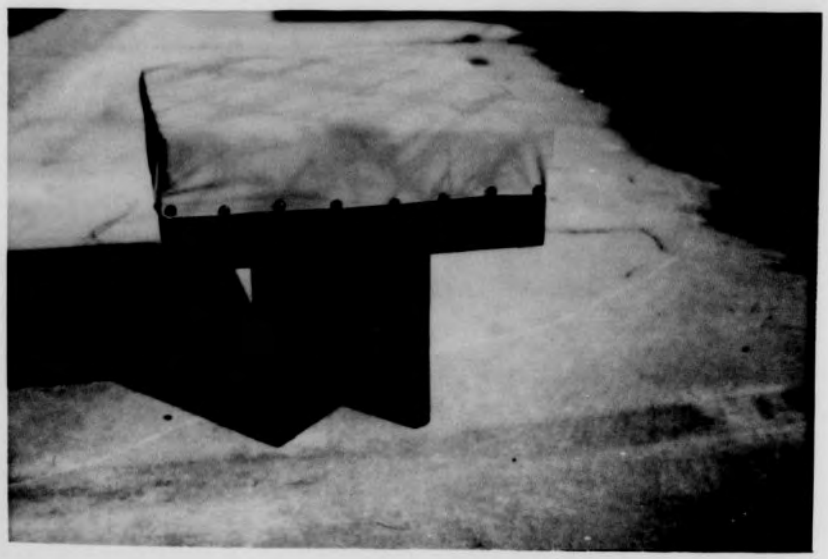

Figure 44. Stool made from a mirror crate and slats from a flower bulb crate.

Figure 45. Soft drink crates used to display small objects.

They could also be used as spice racks, or shelves in the shower or tub area to hold objects such as shampoo and a razor.

Desk. A desk unit could be created from four reinforced crates supporting a heavy equipment platform (Figure 46). Some platforms were found with a tongue-and-groove slat surface that would be smooth enough for a desk surface. The crate base would be excellent for storage.

Screen Door Frames

Old doors are usually stored when they have been replaced by new ones. A search of attics, basements, and garages should prove rewarding. The review of literature suggested several projects using hollow-core doors. However, in this study, two ways were discovered of using screen doors as interior furnishings.

Decorative Screen. A screen door with the screening still in place was used in conjunction with melon crate end pieces to frame a window seat (Figure 47). The finished measurements of this screen were 78" x 28" x 1". First, the screening was sprayed black to cover the rusty spots and to give the finished project a sense of depth. Furniture tacks were nailed around the three screen openings. Then the frame was painted white. Finally, rug yarn in shades of blue and white was strung from the tacks, across the screen openings. Melon crate end pieces were prepared in the same fashion. For an interior setting, two screens would be placed at either end of a window seat, while a series of the melon crate end pieces would extend across the top of the window, starting and ending at the edges of the screens.

Hanging Room Divider. A hanging screen-room divider was also made from a screen door (Figure 48). The finished measurements of this screen

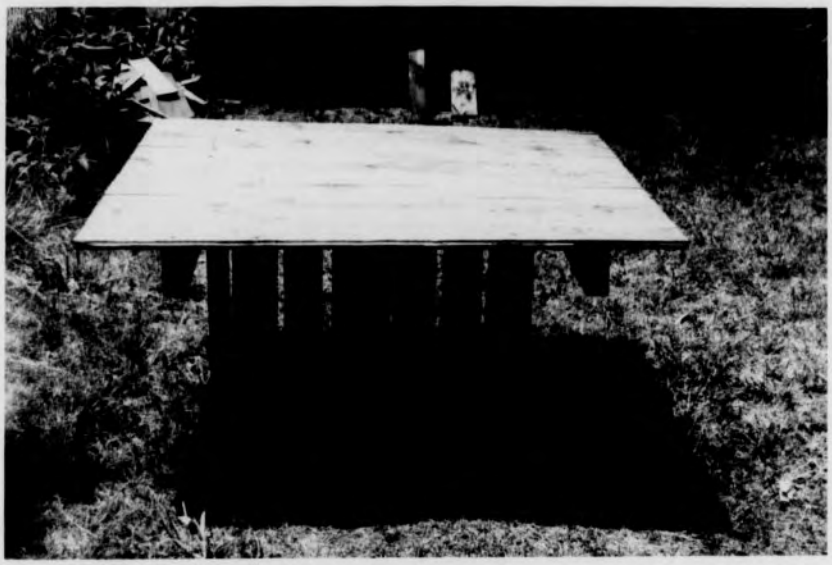

Figure 46. Heavy equipment platform and crates used as a desk with storage.

Figure 47. Screens made from melon crates and a screen door that could be used to frame a window seat.

Figure 48. Hanging screen used to narrow a wide doorway.

were 42" x 28" x 1". For this project, the screening was removed from the frame by prying off the molding strips that held it in place. The frame was then painted black. Cardboard tubes of various diameters were cut to different lengths with a hack saw. These were strung on rug yarn and dipped into assorted shades of lavender and green paint. Some paint stores sold paint that had been returned at a greatly reduced price. Finally, these tubes were hung from furniture tacks that had been nailed at the top edge of the two openings of the screen. For use in an interior setting, two hooks would be screwed into the top, and the screen would hang from these hooks and two others that had been screwed into the molding at the underside of the top of a door frame. This door frame was six feet wide and the screen was used to narrow this width and to give each room more privacy.

Furnishings Made From Cylindrical Objects.

The cylindrical objects were divided into three groups: car tires; kegs, cans, and baskets; and wire spools. The discarded objects in each group, and the furnishings made from these objects, follow.

Car Tires

Although there was, in the literature, a reference to a stool made from tire rims, there were no suggestions for the use of car tires. Once the tread has worn down and the tires cannot be re-capped, old tires are discarded. Good sources for discarded tires for this study were the city dump and companies that re-cap tires. Several ideas for using these tires for interior furnishings were explored in this study. The basic problem with using tires was to find a method for joining them. Three solutions

were found for this problem: tires of the same diameter were used and just stacked on top of each other, the rubber surfaces of the tires tending to adhere to each other; the tires were joined with contact cement; or, a series of tires was roped together.

Seats. A seat was made from three tires stacked together. The finished measurements of this seat were 18" in height x 26" in diameter. The seat was made by first washing the tires, then painting them a uniform black with tire paint, and finally painting decorative stripes on them (Figure 49). With a person seated on the front edge of the tires and leaning back, the seat functions in the same manner as some inflated furniture, with the front collapsing and the back rising to form a back rest. A cushion could be added to the top tire to enable a person to sit on the seat instead of in it (Figures 50 and 51). This cushion was made from three peach basket tops nailed together, with a foam rubber cushion and a cloth cover tacked to the bottom of the peach basket support. Another seat was made from two tires, two wooden drapery rings, and rope (Figures 52, 53, and 54). The finished measurements were 12" in height and 24" in diameter. The rope was cut long enough to loop through the drapery ring at the center of the top of the tires, to continue around the edge of the tires, and to tie each end onto the other drapery hook at the center of the bottom of the tires. Eight ropes were tied tightly in this manner, opposing ropes pulling against each other to supply enough tension so that the ropes would support someone sitting on the seat without a cushion. If greater height were desired, this seat could be placed on top of another tire of the same diameter. An upholstered peach basket top cushion could also be used (Figure 55).

Figure 49. Seat made from three tires stacked together with no cushion added.

Figure 50. Cushion made from three peach basket tops nailed together and a foam rubber cushion.

Figure 51. Seat made from three tires stacked together with a cushion added.

Figure 52. Seat being made from two tires roped together through drapery rings.

Figure 53. Seat made from two tires roped together.

Figure 54. Seat with tire added at base for extra height.

Figure 55. Seat, with cushion, completed.

Table. Two tires roped together were also used in making a table (Figures 56, 57, and 58). The table top, made from three peach basket tops nailed together, tiled and grouted, and finished with rope around the edges, was supported by the ropes and the inner edges of the tires. The finished measurements of this table were 12" in height x 24" in diameter. Another table was made from one tire supported on a cheese box, with the peach basket tiled top (Figure 59). The finished measurements of this table were 12" in height x 24" in diameter. If this cheese box were painted black, it would not be noticeable and the table would appear to be floating. The height of either of these tables could be increased by the addition of another tire at the base.

Bed. A bed was made from twelve tires, four cardboard refrigerator boxes, and foam rubber scraps glued together (Figures 60, 61, 62, 63, and 64). The finished measurements of this bed were 12" x 78" x 52". Tires come in a number of different diameters and thicknesses. Care should be taken in selecting twelve tires of the same dimensions. The tires were washed and six were placed in a row three long and two wide. The cardboard boxes were flattened so that each box was a four-layer thickness of cardboard. Two of these boxes were placed on top of the six tires, overlapping at the center. Another six tires were added on top of this layer of cardboard in the same arrangement as the first six. Another layer of cardboard was added as before. Finally, the front of the tires and the cardboard that would show were painted with tire paint. The mattress was made by gluing together pieces of foam rubber of equal thickness that were given away when an upholstery company went out of business. The foam was cut to the desired sizes with a single-edged razor and joined

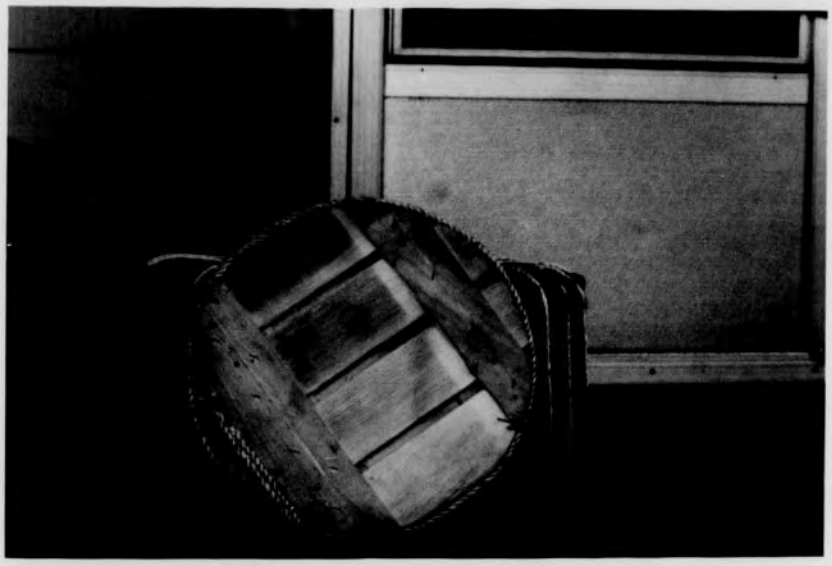

Figure 56. Bottom side of table top made from three peach basket tops nailed together, tiles, and rope.

Figure 57. Table made from two tires with a top made from peach basket tops, tiles, and rope.

Figure 58. Table completed.

Figure 59. Table with cheese box as base.

Figure 60. Bed with twelve tires used as the foundation.

Figure 61. Bed with final layer of cardboard.

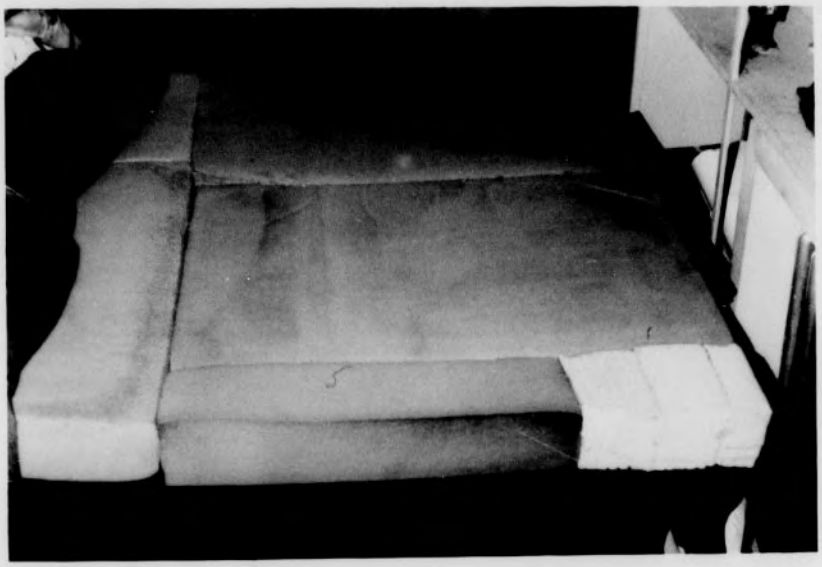

Figure 62. Mattress glued together from foam rubber scraps.

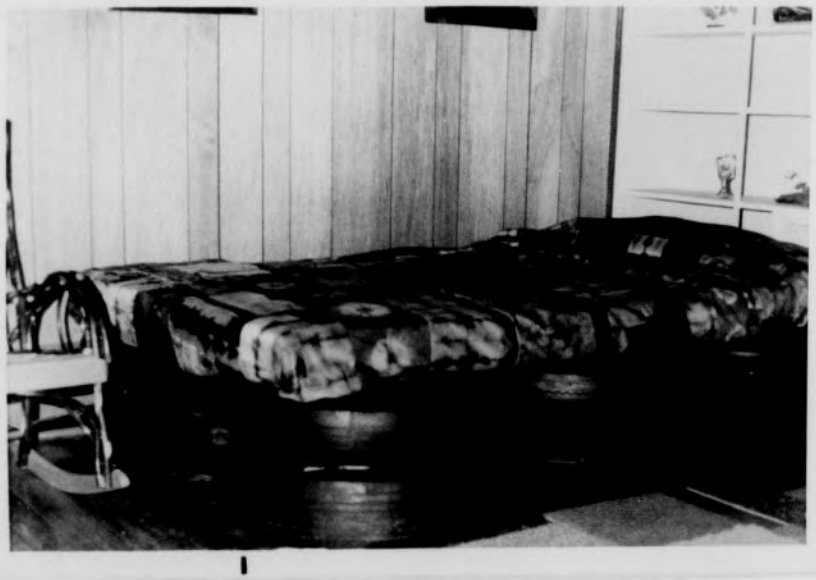

Figure 63. Bed completed with tire foundation exposed.

Figure 64. Bed completed with bedspread covering tires.

with a special glue for use with foam rubber. The main problem in making this bed was the holes in and between the tires. The cardboard was used to distribute the weight so that a person sitting on the bed would not sit down into these holes. Due to the nature of the tires, there is some spring to the bed, but the cardboard controls the amount of the spring so that the bed does give firm support. Plywood sheets could be used in place of cardboard.

Sofa. A sofa could also be made from tires, cardboard, and cushions (Figure 65). The finished measurements of this sofa would be 12" x 78" x 26". Six tires in a row, three long and two high, could be alternated with two layers of cardboard in the same manner as the bed mentioned above. A tire end table, also previously described, could be used with this sofa.

Kegs, Cans, and Baskets

The sources of kegs are dwindling as cardboard containers are rapidly replacing the use of wooden kegs. Two sources of kegs which were found were the electric utility and supply companies. Heavy bolts were shipped in these kegs. Once obtained, these kegs could be sanded or used in their natural rough state. They were easy to stain and the metal bands could be painted with a rust-resistant paint. This was all the finishing necessary if the keg were to be used as a stand or table base. But, if the keg were to be used for seating, some reinforcing would be necessary. The staves of the kegs were held together only by the metal bands. With continued pressure downward on the keg, the structure of the keg would be weakened and the keg eventually would fall apart.

Figure 65. Sofa suggesting possible construction from tires, cardboard and cushions.

Kegs could be reinforced by either of the following methods: an interior support for the weight could be constructed, with two wooden discs the diameter of the keg nailed to wooden supports the height of the keg; or, paper or cloth strips could be glued to the inside surface of the keg, entirely coating this surface, to form an inner membrane that would strengthen the structure of the keg.

Stools. A stool was made from a keg and a foam rubber cushion (Figure 66). The finished measurements of this stool were 19" in height x 12" in diameter. This seat eventually fell apart due to the problems listed above, but could have been reinforced as described above. It is advisable to reinforce these kegs before they collapse since it was found to be beyond the scope of a novice carpenter to reassemble the loose staves and wire bands into a keg. If the staves have come apart, four of them could be lashed together to make a unique picture or mirror frame (Figure 67). Another stool could be made from a can large enough and strong enough to be used in making interior furnishings. Five gallon paint cans could make attractive as well as functional stools with the addition of paint and cushions (Figure 68).

Tables. Kegs made very attractive table bases (Figures 69 and 70). The keg was 19" in height x 12" in diameter. The tiled peach basket table top described previously and a small deer skin were used with these keg bases. A keg was also used in combination with a small wire spool and a wheel hub to make a stand for dried flower arrangements (Figures 71, 72, and 73). Kegs could also be used as attractive supports for shelves (Figure 74). Baskets, found at fruit markets and grocery stores were not strong enough to be used for seating, but they could be used in making

Figure 66. Stool made from one keg and a cushion.

Figure 67. Picture frame suggesting possible construction from four keg staves.

Figure 68. Stool suggesting possible construction from a paint can and a cushion.

Figure 69. Table made from a keg and a tiled top.

Figure 70. Table made from a keg and a circular deer skin.

Figure 71. Stand made from a keg, a wire spool, and a wheel hub.

Figure 72. Stand made from a keg and a wire spool.

Figure 73. Stand completed.

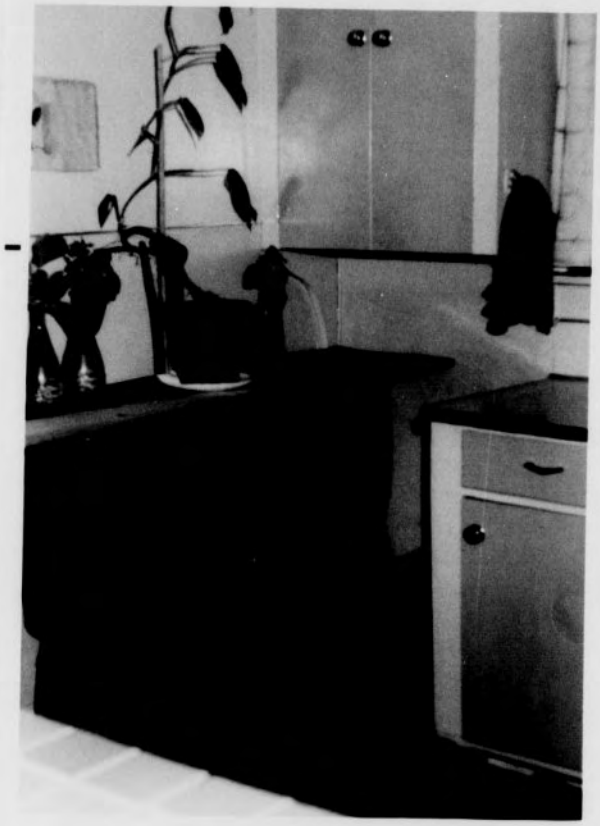

Figure 74. Shelves suggesting possible construction from kegs and the slats of a flower bulb crate.

other interior furnishings. A peach basket could be used as a waste basket, or as the base for a table or telephone stand (Figures 75 and 76). The measurements of these baskets were 20" in height x 9" and 16" in diameter. A peach basket could also be combined with kegs and cheese boxes to make a table with different surface levels (Figures 77 and 78).

Smaller baskets could be used as storage for items such as stationery (Figure 79). Other baskets could be used as lamp shades (Figures 80, 81, and 82).

Wire Spools

Wooden wire spools were found to be as small as one foot and as large as four feet in diameter. Those larger than four feet were usually made of metal. A good source of wire spools for this study was the utility companies. One problem with this source was that these companies did not like to save these spools; therefore, frequent trips had to be made to their warehouses to look for empty spools. Wire spools were very sturdy and made excellent tables (Figure 83). To be functional as a table where people are going to sit, one of the circular discs should be removed to allow people to sit close to the table. If the spool were large enough, two coffee tables could be made from one spool simply by cutting through the center of the slats of the stem of the spool (Figure 84). There were iron rods that run inside the stem, connecting the two large discs. The fastening for these rods would have to be loosened with a wrench, or the rods would have to be cut with a hack saw at the same time as the slats. The slats of the stem fitted into grooves on the bottom of the two discs. The iron rods holding the discs in place kept the slats in these grooves. When these rods were removed or cut, the slats would fall

Figure 75. Table made from an inverted peach basket.

Figure 76. Lamp Stand-Telephone Stand made from an inverted peach basket.

Figure 77. Table with different surface levels suggesting possible construction from kegs, baskets, and cheese boxes.

Figure 78. Table with different surface levels suggesting possible construction from kegs, baskets, and cheese boxes.

Figure 79. Stationery storage made from a basket.

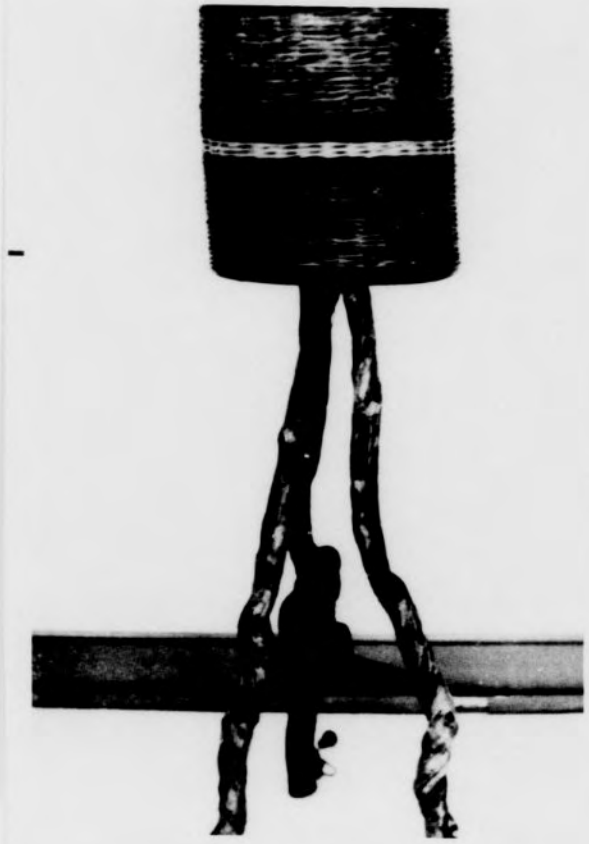

Figure 80. Floor lamp with a basket for the shade.

Figure 81. Hanging lamp with a basket for the shade.

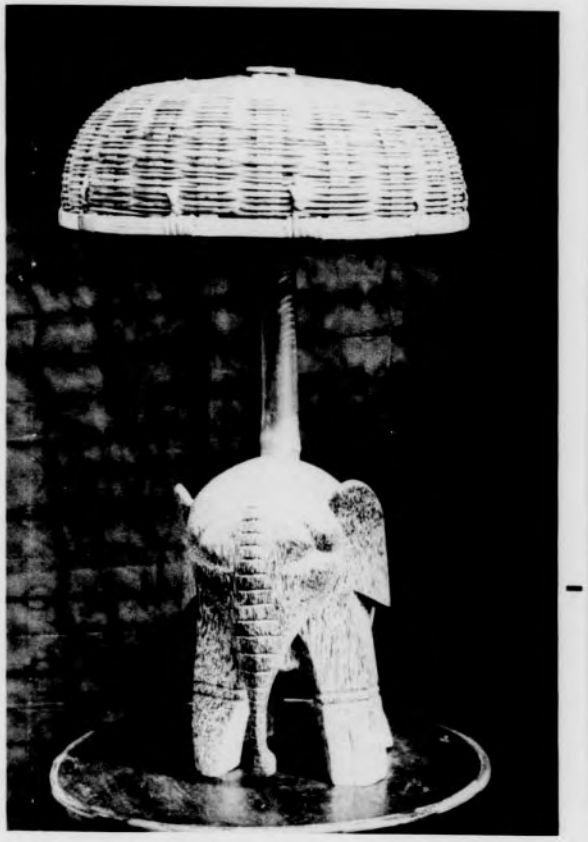

Figure 82. Table Lamp with a basket for the shade.

Figure 83. Table made from a wire spool used without alteration.

Figure 84. Table made from a wire spool disc with half of the spool stem used as the base.

apart unless they had been nailed to each other prior to the cutting. Rattan or wire bands could be used to hold these slats together, or these slats could be discarded and other bases could be used with these wire spool discs to create tables (Figures 85 and 86).

Dining Table. A dining table was made from a wire spool disc with a crate as a base (Figures 87, 88, and 89). The finished measurements of this table were 28½" in height x 38" in diameter. One extra end piece was added to the end of the crate to give the height desired. Nails were driven horizontally into the holes in the wire spool disc; then paper was stuffed into this nail framework. Wood filler was used to fill the remaining holes and the disc was ready to be tiled. Ceramic tiles, obtained from a tile shop that gave away broken tiles and samples, were cut to the desired shapes with tile clippers. The finished edges of these tiles were beveled and therefore thinner than the rest of the tile. This edge had to be clipped away from all the tiles used so that all the tile pieces were the same thickness. After enough tile pieces had been clipped to the desired shapes, they were glued to the disc top with white glue. Then grout was used to fill in the holes between the tiles. Finally, the crate base and some sisal rope were sprayed yellow. The rope was then nailed around the edge of the disc. An application of grout sealer prevented any stains from penetrating into the grout.

Occasional Table. Another table was made from a wire spool disc (Figures 90, 91, and 92). The finished measurements of this table were 21" in height x 38" in diameter. A keg was used for its base; small square tiles were used on the top. These tiles were not cut or broken, but used in their original shape. Their edges were smooth and did not have to be covered with rope as those on the dining table. The edge of

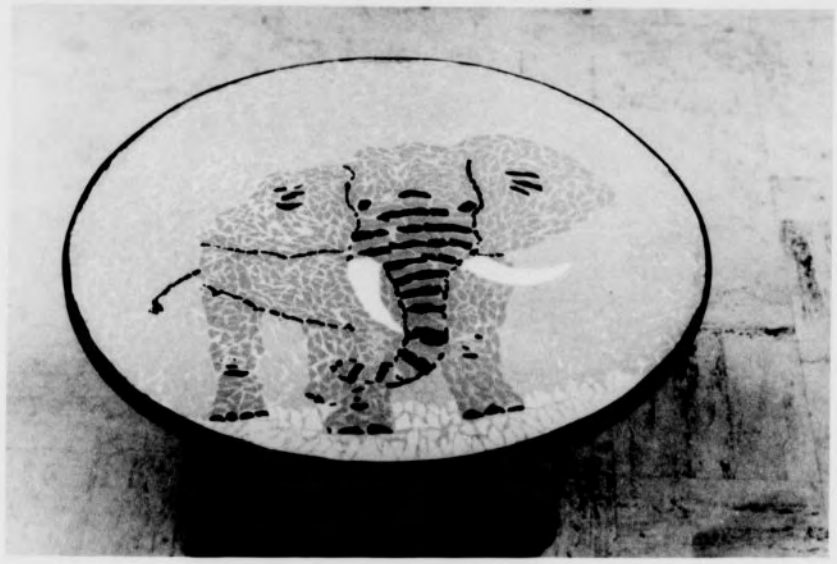

Figure 85. Table made from a wire spool disc with rattan used for the base.

Figure 86. Table made from a wire spool disc with a basket base.

Figure 87. Dining Table with an extra end piece added to the crate base to obtain the desired height.

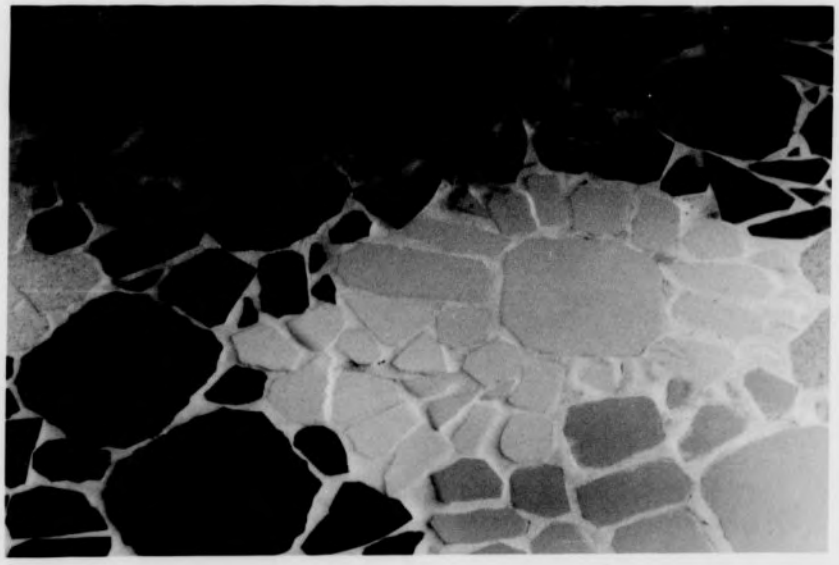

Figure 88. Dining Table showing detail of the tile design.

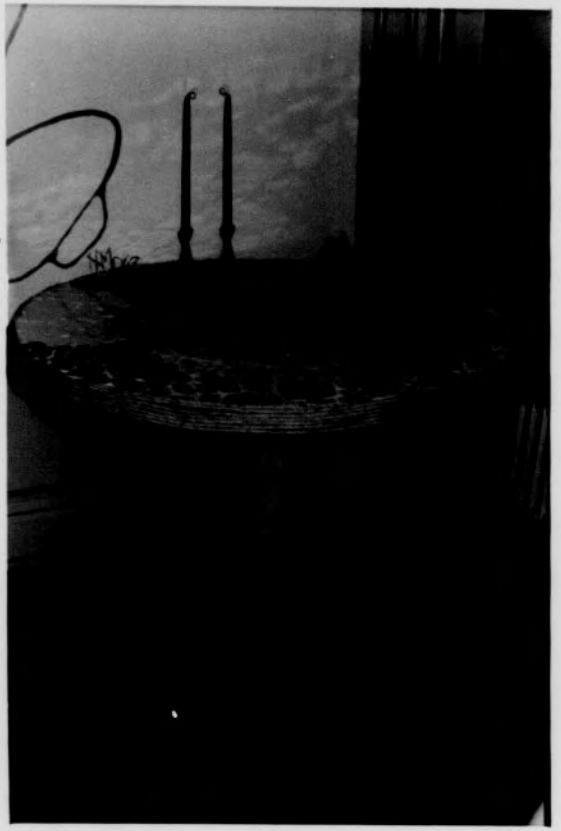

Figure 89. Dining Table completed.

Figure 90. Occasional Table with a circle of nails in the top that fit into the opening of the keg.

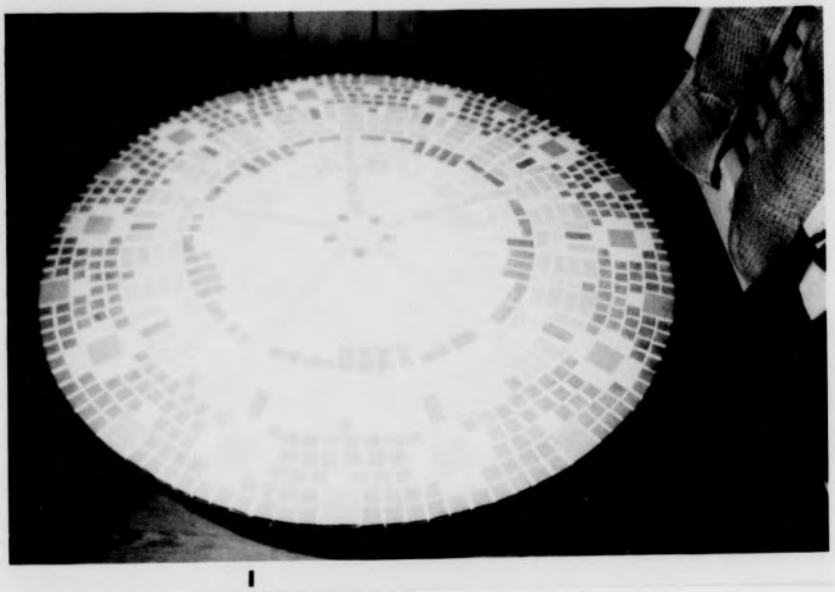

Figure 91. Occasional Table showing the tile design.

Figure 92. Occasional Table completed.

the disc and the outer tiles were painted black. The circumference of the keg was drawn in the center of the underside of the disc as a guide for attaching the table top to the keg. Four-inch nails were driven into the disc one-half inch inside this circumference. The top was then placed on the keg with the nails fitting just inside the keg opening.

Coffee Table. A coffee table was made using a wire spool disc with a wooden crate as the base (Figures 93 and 94). The finished dimensions of this coffee table were 12" in height x 38" in diameter. The top was finished in the same manner as the dining table above, except that black tempera paint was added to the grout, producing a gray color. The crate was found at a photographic supply store. It did not have to be changed in size or shape. Bamboo strips, split lengthwise, were glued and nailed vertically to the entire exterior surface of the crate. The top and base of this table did not have to be permanently joined since the base was wide enough to prevent the top from tipping over when the table was in use. Therefore, the top just rested on the base.

Stool. A stool was made from a small wire spool (Figure 95). The finished measurements of this stool were 14" in height x 12" in diameter. The spool was stained and painted. A cushion was made from foam rubber, three peach basket tops that were nailed together, and a cloth cover tacked to the bottom of the basket pieces.

Sculpture Base. Another fairly small wire spool was used as the base for an egg tree (Figure 96). The measurements of this spool were 20" in height x 24" in diameter. This tree could be used as a base for Christmas and Easter decorations or as a year-round sculpture. The egg shells were treated by blowing out their contents through holes made in

Figure 93. Coffee Table made from a wire spool disc with a bamboo-covered crate base.

Figure 94. Coffee Table completed.

Figure 95. Stool made from a small wire spool and a cushion.

Figure 96. Egg Tree with a wire spool used as the base.

the ends of the eggs with hat pins. The shells were dyed and painted and hung on the tree. A string of small white lights was also added.

Picture Frames. Picture frames were made from slats from a wire spool (Figure 97). The finished measurements of these frames were 23" x 19" x ½". These slats were cut at a forty-five degree angle and the pieces were glued and nailed together with U-shaped brads. These brads had to be nailed on the front of the frames due to the curve of the back of the slats; therefore, the color of the stain to be used should be considered in selecting the color of the brads.

Furnishings Made From Miscellaneous Objects.

Discarded objects which could not be classified as rectilinear or cylindrical were used effectively in creating interior furnishings for this study. These miscellaneous objects were: carpet pieces, a lamp base, a metal chair frame, masonite board, used wrapping paper, discarded curtains, cloth remnants, odd napkins, and natural materials. The discarded objects and the furnishings made from these objects follow.

Carpet Pieces

Discarded carpets and carpet samples could be used for interior furnishings in several ways.

Area Rugs. A plain carpet was changed to a patterned carpet by the application of a packaged dye (Figure 98). The finished size of this carpet was 12" x 16". A strong solution of dye was mixed by adding a package of dye to a small boiler of hot water. Then a vegetable brush was used to apply the hot dye to the rug. Several designs were tried on scraps of carpet before the final design was chosen. Another area rug was made by sewing carpet samples together (Figures 99 and 100). However, there is an

Figure 97. Two picture frames made from wire spool slats.

Figure 98. Area Rug made from discarded carpet and packaged dye.

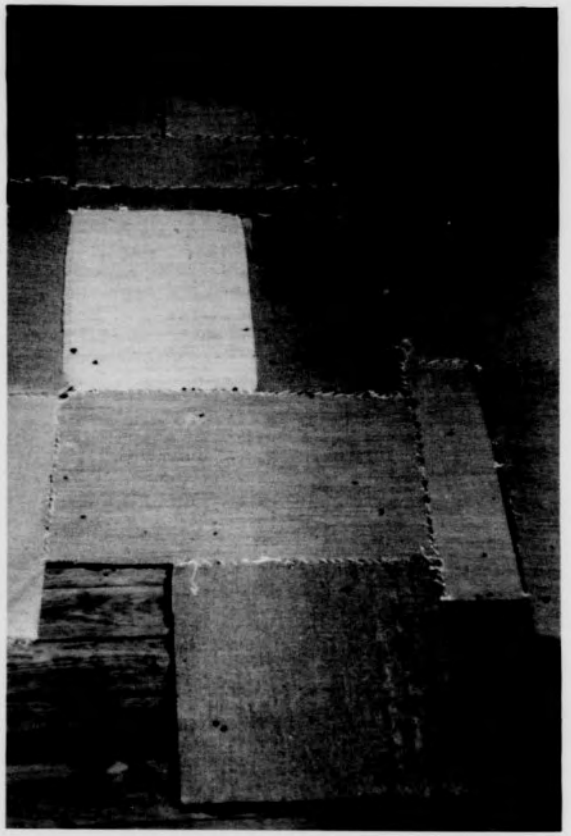

Figure 99. Area Rug made from carpet samples sewn together.

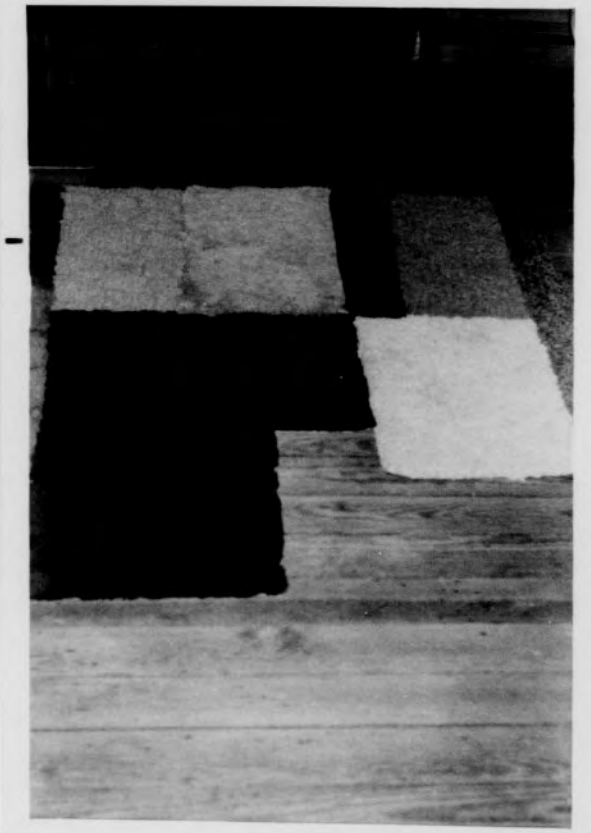

Figure 100. Area Rug completed.

easier method of joining. These scraps could easily be glued to a thin foam rubber backing or to a piece of burlap or canvas. Another method of joining involves gluing a heavy canvas tape over the seams on the back. The carpet scraps are hard to cut with scissors. It would be worthwhile to buy a carpet knife or, if much cutting is to be done, to rent a pair of carpet shears. Some carpet stores will give away their old samples. Otherwise, small pieces of carpet can be purchased for a minimal price. In 1971, the price was twenty-five cents a pound and the area rug sewn together for this study cost one dollar and forty cents.

Floor Seats. Large carpet scraps were used to cover cushions, thereby forming floor seats for use with the coffee table (Figures 101 and 102). The carpet pieces measured 34" x 54" and the cushions, 24" square.

Lamp Base

There are many lamp bases either discarded or stored in attics or basements when the shades or electrical fixtures are damaged.

Lamp. A shade was made for a discarded lamp base by sewing cloth to a wire shade frame (Figures 103, 104, and 105). The finished measurements of this lamp were 24" in height x 12" in diameter. This lamp would be used for a decorative light since the dark cloth blocks out a good deal of the light produced. A better light source could be produced by covering a white shade with cloth. The white interior of the shade would reflect a large percentage of the light through the openings in the shade. If the appearance of the lamp base were not satisfactory, the whole base could be wrapped with rope to give the base a natural appearance (Figure 83).

Figure 101. Floor Seat made from a cushion and a large carpet remnant.

Figure 102. Floor Seats completed.

Figure 103. Lamp with cloth used to cover the old shade.

Figure 104. Lamp showing cloth sewn onto the wire shade frame.

Figure 105. Lamp completed.

Metal Chair Frame

When the seating materials on lawn chairs and directors' chairs eventually stretch or rot, the frames from these chairs are usually discarded.

Chair. A discarded metal chair frame was painted and strung with rope to re-create a functional furnishing (Figures 106, 107 and 108). The finished measurements of this chair were 32" x 20" x 20". The cushion was made from one-inch thick foam rubber covered with cloth and tied to the back of the seat frame with rug yarn. The rope could be dyed first if another color were desired.

Masonite Board

Scraps of masonite can be obtained from lumber companies.

Painting. A large piece of masonite board that had been discarded was used as the background for a painting (Figures 109 and 110). The finished measurements of this painting were 46" x 80" x 1/8". The board was first covered with white house paint that was found in the basement. Then the design was applied with the same paint after it had been mixed with a purchased orange pigment. The painting was hung by a rope which extended across the back of the board. Each end of this rope was pulled through a hole at the edge of the painting and a knot was tied in each rope end so that it could not pull back through the hole. One problem with masonite board this large was that it tended to bend when hung in this manner. A more substantial frame could be made for this painting by attaching two wooden strips to the wall at the top and bottom of the painting, each strip having a groove for the painting to slide into.

Figure 106. Chair strung with rope made from a discarded chair frame.

Figure 107. Chair with the cushion tied to the back of the seat frame.

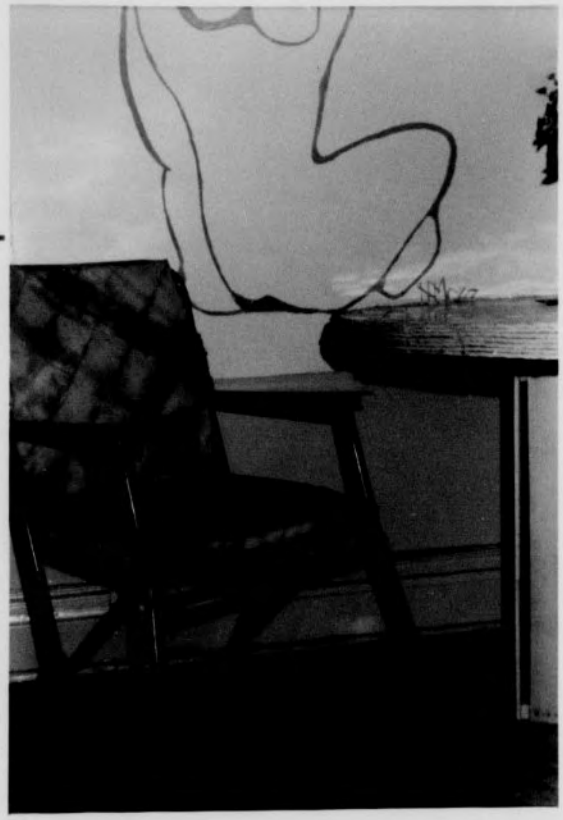

Figure 108. Chair completed.

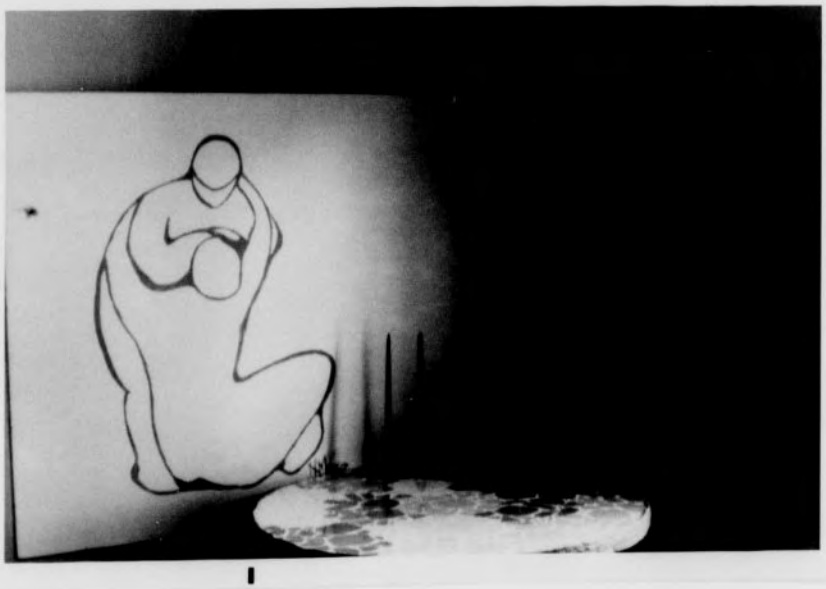

Figure 109. Painting on masonite board hung by rope knotted at edges of board.

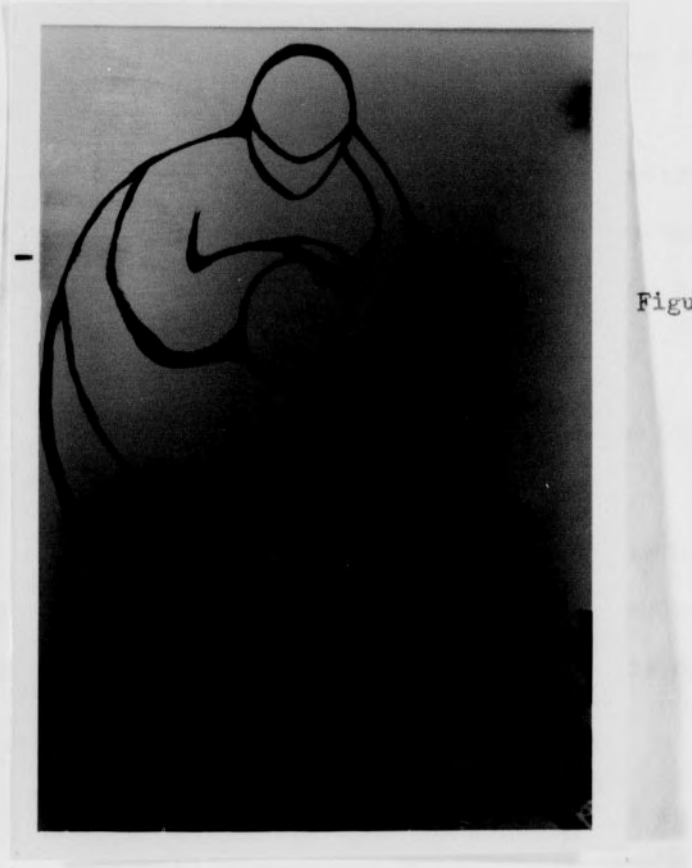

Figure 110. Painting completed.

Used Wrapping Paper

Wrapping paper can be folded and saved until there is a sufficient amount and variety for the desired project.

Window Cover. An interesting use for used wrapping paper was to glue it to sheets of newspaper and then tape these sheets behind the glass panes of a cabinet where "messy" items are to be stored (Figure 111).

Discarded Curtains

Curtains that no longer match the new color scheme in the house or apartment are sometimes discarded.

Curtains. A set of discarded curtains was decorated with block-print designs (Figure 112). The block prints had been created for another purpose but lent themselves very well to this decoration.

Cloth Remnants

Cloth remnants can easily be obtained from anyone who sews.

Curtains. Remnants of cloth were sewn together for a pair of curtains and the same block prints, used as in the above curtains, helped to coordinate these two pairs of curtains since they were used in the same room (Figure 113). Other curtains were also made from cloth remnants. On one pair, remnants were used for the appliqued decoration (Figure 114). Two other pairs of curtains were made of green and lavender cloth remnants sewn together and then tie-dyed (Figure 115). The use of the same color of dye and the same design on all four curtains helped to give them a unified look.

Pillow Covers. Pillow covers were also made from cloth remnants (Figure 116). The seams were covered with decorative stitching using rug yarn remnants.

Figure 111. Window cover used to convert a glass-paned cabinet into private storage.

Figure 112. Curtains with block print decorations added.

Figure 113. Curtains made from cloth remnants with block print decorations.

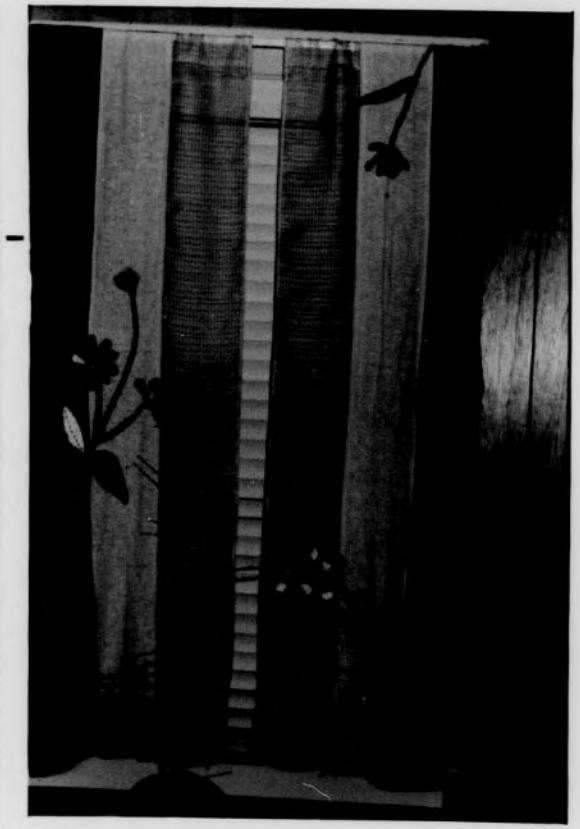

Figure 114. Curtains, the appliqued designs of which were made from cloth remnants.

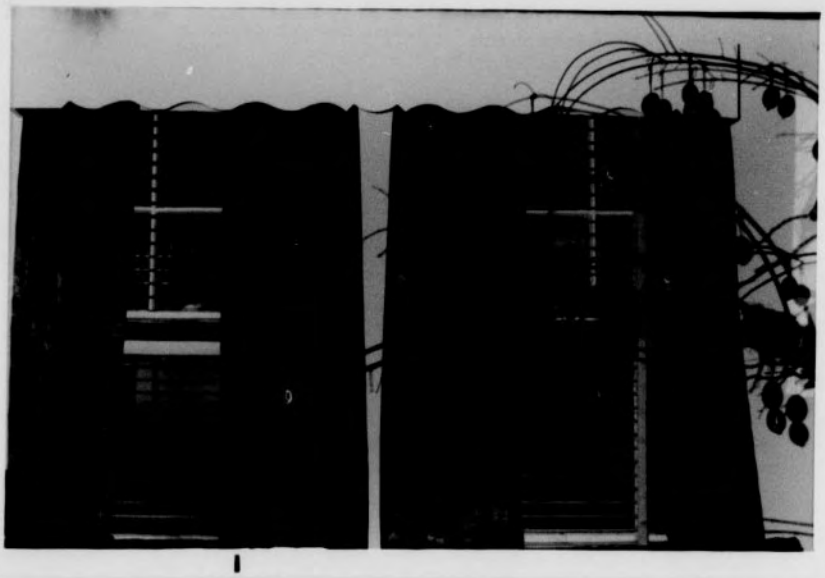

Figure 115. Curtains made from cloth remnants and packaged dye.

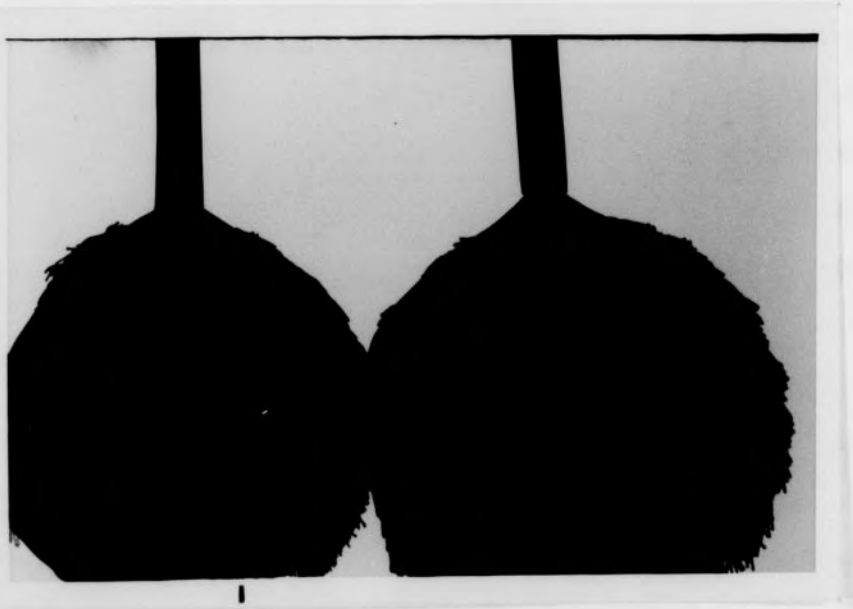

Figure 116. Pillow Covers made from cloth and yarn remnants.

Bed Spread. A bed spread was made by sewing together remnants from different pieces of tie-dyed cloth (Figure 64).

Afghan. An afghan was made from remnants of rug yarn (Figure 8).

Odd Napkins

Napkin sets which are no longer complete can be found in any household.

Wall Hangings. Odd napkins were made into an attractive interior furnishing by sewing them into long strips for use as a wall hanging (Figure 117). They could also have been used as a decorative runner for the center of a table.

Natural Materials

The world abounds with natural materials that can be used in furnishing a house or apartment.

Accessories. Natural materials such as dried flowers, seed pods, and wood scraps were used as accessories (Figures 118, 119, 120, 121, and 122). They combined especially well with the use of natural woods.

Picture Frames. Bamboo strips were used as a picture frame (Figure 123). Rattan, or other vines, could be used in the same way (Figure 124).

Coat Rack. A dead tree was used in making a coat rack (Figures 125 and 126). The limbs were sawed off at different lengths. The thick bark on the last eight inches of the base was removed with a heavy knife and a hammer so that this end could be forced into the hole in a tire rim. The tire and rim together were heavy enough to be a good support for the tree. After the tree branches were cut, they extended only a few inches beyond the edge of the tire to reduce the possibility of the tree's tipping over. Finally, the tire and rim were painted with black tire paint.

Figure 117. Wall hanging made from odd napkins.

Figure 118. Accessories made from dried flowers and dried berries.

Figure 119. Accessories made from dried grasses and dried seed pods.

Figure 120. Accessories made from dried flowers and other natural materials.

Figure 121. Accessories made from dried seed pods, cones, and feathers.

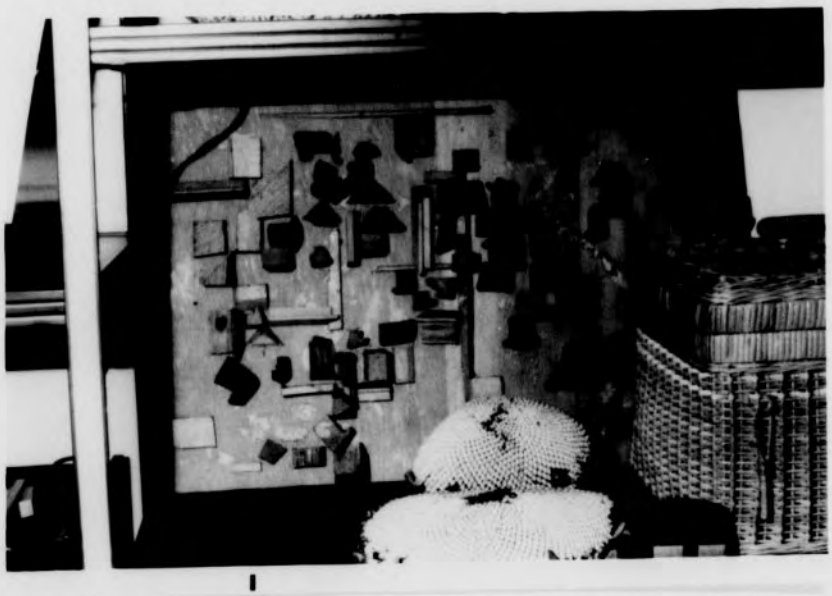

Figure 122. Accessories made from wood scraps and dried seeds.

Figure 123. Picture Frames made from bamboo strips.

Figure 124. Picture Frames made from rattan.

Figure 125. Tree used for coat rack and utility rack shown as it was found.

Figure 126. Coat rack made from tree and tire with rim.

Utensil Rack. The same tree-stand described above may be used in the kitchen to hang utensils if storage space were limited (Figure 127).

Furnishings Made From Discarded Objects Used to Furnish a Whole House or Apartment.

For the purpose of this study, a six-room house was furnished with the furnishings previously described in this study (Figure 128). The budget-minded person who is interested in creating his own interior furnishings would not necessarily duplicate these exact furnishings or their placement in an interior setting. The purpose of this study was to indicate ways in which ordinarily discarded objects may be recycled into low-cost interior furnishings for an entire house or apartment, and to show how these furnishings would look. The author hopes that this study will prove useful to others for specific ideas for interior furnishings, or for inspiration for creating new, unique interior furnishings.

Figure 127. Utensil Rack made from tree and tire with rim.

Numbers indicate figures in text:

7. Bed.
11. Seat.
12. Informal seat.
15. Sofa.
16. Sofa.
17. Sofa.
18. Room Divider-Bookcase.
23. Stool.
26. Counter.
28. Counter-Eating Surface.
33. Lamp.
35. Workshop storage.
36. Sewing Room storage.
37. Record storage.
38. Book storage.
41. Bookcase.
46. Desk.
48. Hanging room divider.
51. Seat.
55. Seat.
58. Table.
59. Table.
63. Bed.
69. Stand.
70. Stand.
73. Stand.
75. Table.
89. Dining table.
92. Occasional table.
94. Coffee table.
96. Egg tree.
98. Rug.
100. Rug.
102. Floor seat.
105. Lamp.
108. Chair.
126. Coat rack.
127. Utensil rack.

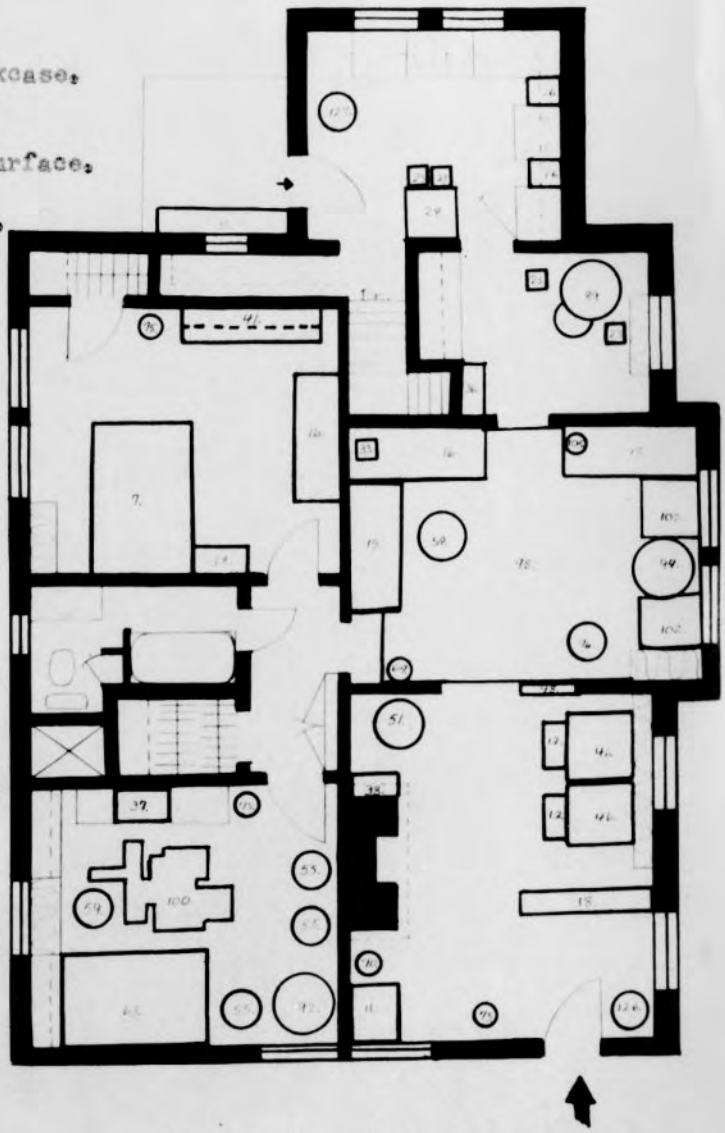

Figure 128. Floor plan showing furnishings used to furnish six-room apartment.

CHAPTER V

SUMMARY AND CONCLUSIONS

Interior furnishings for an entire apartment were constructed at a low cost by using ordinarily discarded objects as the basis for construction. Approximately thirty dollars was spent for the items used such as stain, glue, grout, and rope. This thirty dollars included all the expenses with the exception of the labor, and was considerably less than the $1,600 cited in the introduction as the minimum amount required to start housekeeping in such an apartment.

The discarded objects used included crates, screen doors, tires, kegs, cans, baskets, and wire spools. These were categorized by rectilinear and cylindrical shapes and miscellaneous items. Such furnishings as sofas, tables, room dividers, and beds were made from discarded objects in each of these categories. These were described and illustrated by photographs. A floor plan of an apartment furnished entirely from the objects constructed was included.

The results of this study could be used for ideas for furnishing an entire house or apartment or individual ideas could be used to make accent pieces to complement acquired furnishings. These ideas might be helpful to low-income groups, for example those who would be moving into new housing units such as the Turnkey projects, and to people in any income level who are interested in creating their own interior furnishings.

Furnishings can be produced at a very low cost if ordinarily discarded objects are used as the basis for construction. If the designs

are aesthetically pleasing and take into consideration the inherent nature of the materials used, "low cost" need not be synonymous with "less desirable". It is especially important for budget-minded people to become aware of and know that the simplest natural materials can be used in creating pleasing home furnishings, and that many objects can be utilized for purposes beyond their intended original use.

BIBLIOGRAPHY

1. "A Bookcase From Boxes", American Home, September, 1968.

2. Ballinger, Louise Bowen and Vroman, Thomas F., Design: Sources And Resources, Reinhold Publishing Corporation, N. Y., 1965.

3. Boschetti, Margaret, Furniture Space Savers: Boxes and Boards, Extension Bulletin E-661, Home and Family Series, Cooperative Extension Service, Michigan State University, January, 1971.

4. "Box Shelves Are in Style", Popular Science, May, 1967.

5. Brown, Dorothy F., Low-Cost Furniture, Extension Circular 756, Cooperative Extension Service, Oregon State University, January, 19 1971.

6. Brown, Dorothy F., Low-Cost Hanging Lamps, Extension Circular 757, Cooperative Extension Service, Oregon State University, September, 1970.

7. Champion, Paul, Creative Crate Craft, The Bruce Publishing Company, Milwaukee, 1942.

8. Cushman, Ella M., Management in Homes, The Macmillan Company, N. Y., 1945.

9. Do It Yourself Home Decorating Ideas: Favorites From Home Economics Teachers, Favorite Recipes Press, P. O. Box 3396, Montgomery, Alabama 36109, 1970.

10. How to Build Outdoor Furniture, a Sunset Book, Lane Publishing Company, Menlo Park, California, 1953.

11. Kirk, Page, Make it for the Children, Committee on Equipment and Supplies, Bulletin of the Association for Childhood Education, 1201 Sixteenth Street, N. W., Washington, D. C., 1942.

12. Livingstone, Jeffrey H., Make-It-Yourself Furniture For The Home Craftsman, McGraw-Hill Book Company, Inc., 1956.

13. New Furniture from Old, North Carolina State Agricultural Extension Service Bulletin #19, 1970.

14. "Setting up housekeeping? Here's what it costs", Changing Times, The Kiplinger Magazine, March, 1969.

15. Simpson, Thomas, Fantasy Furniture: Design and Decoration, Reinhold Book Corporation, 1968.

16. You Can Make It for Camp And Cottage: Practical Uses For Second-hand Wooden Containers And Odd Pieces of Lumber, (Volume II), Report of the Subcommittee on Camp and Cottage Equipment of the U. S. National Committee on Wood Utilization, U. S. Government Printing Office, Washington, D. C., 1930.

17. You Can Make It: Practical Uses For Secondhand Boxes And Odd Pieces Of Lumber, (Volume I), Report of the Subcommittee on Uses for Secondhand Boxes and Odd Pieces of Lumber of the U. S. National Committee on Wood Utilization, U. S. Government Printing Office, Washington, D. C., 1929.