

A COURSE OF STUDY FOR FURNITURE UPHOLSTERING

By

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R. E. N.

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## A COURSE OF STUDY FOR FURNITURE UPHOLSTERING

By Ross E. Nichols, Graduate Student, Oklahoma A. & M College

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### Introduction

The study of the art of upholstering is an interesting one. The word "upholster" or "upholsterer" originated from the word "up-holder." In the early days of the craft, as well as today, textiles required stuffing and springs underneath to give the fabric permanent form. This holding-up attribute lead to the use of the word "upholder" or "upholster." This also applied to furniture hucksters who "held up" their wares for inspection when selling at auction.

Today, the comfort, beauty, and utility of upholstered objects form an integral part of our every day lives. However, it is found that there are few school shops in Oklahoma which acquaint the student with the art of upholstering....a subject which has a general appeal to the student, offers useful consumer education, affords an excellent opportunity for creative expression and the satisfaction resulting from the completion of projects which have a practical value. It is also to be noted that the cost of equipment necessary for setting up an upholstery shop is lower than that of the majority of Industrial Arts subjects now being taught. (Refer to page 35 for estimate of cost of setting up an upholstery shop)

Upholstering has heretofore been considered too difficult for the amateur and the lack of trained instructors and textbooks seems to have retarded the wider teaching of this subject.

However, it is thought that by using less difficult projects to start with, students may gradually acquire a knowledge of processes and skills which may eventually allow them to complete more complicated problems.

Special Values and Specific Objectives of a Course in Furniture Upholstering

1. Presents basic industrial knowledge of various tools, machinery, raw materials, textiles, design principles, and upholstering processes.
2. Variety of materials available for use affords a wide scope for creative activity.
3. An insight into the repair and maintenance of upholstered furniture provides an invaluable aid to the individual who performs home mechanics.
4. An appreciation for the craftsman and the art of upholstering is acquired from contact with the actual processes entailed in the creation of an upholstered project.
5. The student is made aware of desirable safety and accident precautionary measures to be observed in the school shop in connection with this activity.
6. Provides useful consumer education.
7. Establishes groundwork for an avocational pursuit, which may be economically set up as a home work shop.
8. Practical use of knowledge gained from texts, lectures, and other informational sources is made through actual application on projects, thereby allowing the student to acquire experience, skill, and a feeling of competency.
9. Furnishes opportunity for development of interests and aptitudes which may culminate in a specific vocational choice in the upholstering or related industries.
10. Acquaints the student with qualities of good workmanship through stress on careful analysis, planning, and performance of mechanical tasks in order to achieve a desirable product.



### Grade Placement

It is thought that students of high school and college level would obtain the maximum benefit from a course of this type.

### Prerequisites

Drawing and hand woodwork are considered essential prerequisites for this course.

### Teaching Methods

Recommended method of teaching furniture upholstering may be divided into four parts:

- (a) Lectures, demonstrations, and group discussions.
- (b) Visual Aids.
- (c) Textbook assignments and tests.
- (d) Student participation in selecting, planning, analysing and working on project.

Since the students will have a wide choice of types of projects to choose from, it is suggested that time be taken to discuss the projects on which the students are encountering problems individual to a particular project. In this way, the other students can vicariously gain experience in processes dealing with wing tipped pillows, cushions, channel back chairs, etc.

Beginning lectures should deal with the principles of design in order that the student may have background information for selecting a project.

The use of visual aids is to be encouraged. Step-by-step diagrams of processes such as spring tying and padding, and

charts containing mounted samples of the different types of upholstery materials, various stuffings, twines, tacks, woods, etc., should prove helpful.

The shop should be equipped with catalogs on frames, upholstering materials, and trimmings in order that the student may have readily accessible sources for acquiring the necessary materials or dimensions for frames. An attempt should be made to make arrangements with distributors to have ordered materials delivered in the shortest possible time.

A field trip to factory producing upholstered furniture may be planned if feasible.

#### Summary Sheet for Course in Furniture Upholstering

This summary sheet may be used as an individual progress chart on which the records of an individual may be recorded. It may also be used as a check list for the instructor to guide him in the selection of teaching lessons.

Student's Name \_\_\_\_\_  
Bench No. \_\_\_\_\_

#### A Summary of Units of Instruction in Furniture Upholstering

Manipulative Units	Topics of Information
1. Tacking and stretching webbing _____	1. Estimating and measuring for amount of webbing _____
2. Fastening springs to webbing _____	2. Kinds of webbing _____
3. Fastening springs to wood _____	3. Number and size of tacks to be used _____

A Summary of Units of Instruction in Furniture Upholstering  
(Continued)

<u>Manipulative Units</u>	<u>Topics of Information</u>
4. Spring tying and tacking	4. Kinds and sizes of springs
5. Making a wire spring edge	5. Kinds of twine and knots used in spring tying
6. Attaching burlap	6. Kinds and weights of burlap
7. Making an edge roll on wood	7. Use of the different upholstery needles
8. Making an edge roll on a round arm	8. The different types of stuffing materials
9. Making a stitched edge on wire	9. Different prices for the different types of stuffings and cotton
10. Making a square edge	10. Making a pattern layout
11. Stuffing proper amount	11. Determining the grain of the material
12. Muslin cover	12. Operation of sewing machine
13. Cutting the covering	13. Kinds and sizes of welts
14. Making a french seam	14. Different types of upholstery coverings
15. Sewing welt into a seam	15. The use of down for cushions
16. Covering the platforms and front border	16.
17. Covering the inside of the arms	17.
18. Blind tacking	
19. Covering the outside of the arms	

A Summary of Units of Instruction in Furniture Upholstering  
(Continued)

<u>Manipulative Units</u>		<u>Topics of Information</u>	
20.	Making an innerspring cushion	18.	
21.	Using the foot power cushion filler	19.	

Recommended Texts

There are very few good textbooks in the field of upholstering. Those listed below were chosen because it is believed that they most suit the needs for a course in furniture upholstering to be offered on the high school and college level.

- (1) Bast, Herbert, New Essentials of Upholstery, The Bruce Publishing Company, Milwaukee, Wisconsin, 1946, 301 pages.
- (2) Seager, Charles W., Upholstered Furniture, The Bruce Publishing Company, Milwaukee, Wisconsin, 1936, 181 pages.
- (3) Wright, Florence E., Be Your Own Upholsterer, New York State College of Home Economics at Cornell University, Ithaca, New York, 1944, 74 pages.

Bibliography

Some of the books listed below, although not written completely on the subject of upholstering, do contain valuable reference material in their chapters on upholstering and related topics.

1. Agan, Tessie, The House, J. B. Lippincott Company, New York, 1939, 622 pages.
2. Baxter, M. A. and Lackey, P. G., Woodworking Projects & Upholstery, D. Van Nostrand Company, Inc., New York, 1928, 251 pages.

3. Dane, M., Home Upholstery, Sir Isaac Pitman & Sons, Ltd., London and New York, 1929, 97 pages.
4. Hardy, K., Beauty Treatment for the Home, Funk & Wagnalls Company, New York and London, 1945, 198 pages.
5. Johnson, E. A., Furniture Upholstery for Schools, The Manual Arts Press, Peoria, Illinois, 1919, 64 pages.
6. Knauff, Carl, Refurbishing the Home, Whittlesly House, McGraw Hill Book Company, Inc., New York, 1939, 300 pages.
7. Meyer, E. B., Decorating Livable Homes, Prentice Hall, Inc., New York, 1938, 440 pages.
8. Pope, B. R., Upholstering Home Furniture, The Manual Arts Press, Peoria, Illinois, 1948.
9. Spears, R. W., Make and Remodel Home Furnishings, M. Barrows & Company, Inc., New York, 1944, 192 pages.
10. Stephenson, J. W., Modern Furniture Upholstering, Clifford & Lawton, New York, 1923, 243 pages.
11. Stephenson, J. W., Practical Upholstering, Clifford & Lawton, New York, 1937, 276 pages.
12. Yates, R. F., How to Restore Furniture, Wilfred Funk, Inc. New York, 1948, 203 pages.

A List of Related Bulletins for a Course in Upholstering or Re-upholstering

The bulletins listed below can be obtained free or nearly free on writing to the various extension services.

1. Collins & Aikman Corporation, Handbook on the Care and Cleaning of Automobile and Furniture Upholstery, Collins & Aikman Corporation, 200 Madison Avenue, New York City.
2. Collins & Aikman Corporation, Upholstery Fabrics, Collins & Aikman Corporation, 200 Madison Avenue, New York City, 1937, 19 pages.
3. Cornell University Extension Service, Cane Seats for Chairs, Bulletin No. 681, Cornell University, Ithaca, New York, 1945, 7 pages.

4. Cornell University Extension Service, Homemade and Re-modeled Furniture, Bulletin No. 51, Cornell University, Ithaca, New York, 1935, 31 pages.
5. Cornell University Extension Service, How to Glue Furniture, Bulletin No. 684, Cornell University, Ithaca, New York, 1945, 5 pages.
6. Cornell University Extension Service, Refinishing Old Furniture, Bulletin No. 295, Cornell University, Ithaca, New York, 1934, 30 pages.
7. Cornell University Extension Service, Splint Seats for Chairs, Bulletin No. 682, Cornell University, Ithaca, New York, 1945, 7 pages.
8. Household Finance Corporation Department of Research, Better Buymanship - Use and Care - Furniture, Household Finance Corporation, 919 North Michigan Avenue, Chicago, Illinois, 1939, 40 pages.
9. Iowa State College Extension Service, Chair Caning, Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa, 1939, 8 pages.
10. Iowa State College Extension Service, Refinishing and Care of Furniture, Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa, 1944, 8 pages.
11. Louisiana State University and Agricultural and Mechanical College Extension Service, A Studio Couch Made at Home, Circular No. 186, Louisiana State University and Agricultural and Mechanical College, Baton Rouge, Louisiana, 1939, 3 pages.
12. Ohio State University Extension Service, Refinishing Furniture at Home, Bulletin No. 198, Ohio State University, Columbus, Ohio, 1943, 31 pages.
13. Oklahoma Agricultural and Mechanical College Extension Service, Refinishing Furniture, Circular 265, Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma, 30 pages.
14. Oklahoma Agricultural and Mechanical College Extension Service, Re-upholstering at Home, Circular 386, Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma, 11 pages.
15. South Dakota State College and U. S. Department of Agriculture Cooperative Extension Services, Furniture Care and Reconditioning, SDES-HMC-199, South Dakota State College, Brookings, South Dakota, 32 pages.

16. U. S. Department of Agriculture, Slip Covers for Furniture, Farmers Bulletin 1873, U. S. Department of Agriculture, Washington, D. C., 1941, 26 pages.

Magazines for Reference Use in a Course in Furniture Upholstering

1. Curtain and Drapery Department Magazine, Hall Publishing Company, 373 Fourth Avenue, New York City, issued monthly, \$3.00 per year.
2. Deltagram, Delta Manufacturing Division, Rockwell Manufacturing Company, 600-634 East Vienna Avenue, Milwaukee, Wisconsin, six issues per year, \$0.75.
3. Furniture Manufacturer, Vincent Edwards Publishing, Inc., 342 Madison Avenue, New York City, issued monthly, \$2.00 per year.
4. Industrial Arts and Vocational Education, The Bruce Publishing Company, 540 North Milwaukee Street, Milwaukee, Wisconsin, issued monthly, \$3.00 per year.
5. Industrial Finishing, Practical Publications, Inc., 1142 West Meridian Street, Indianapolis, Indiana, issued monthly, \$2.00 per year.
6. Upholstering, Hall Publishing Company, 34 North Crystal Street, East Stroudsburg, Pennsylvania, issued monthly, \$3.00 per year.

The Course of Study Outline

In the following outline the columns at the right are numbered to correspond to the numbers shown in the following list of textbooks.

1. Bast, Herbert - New Essentials of Upholstery
2. Seager, Charles W. - Upholstered Furniture
3. Wright, Florence E. - Be Your Own Upholsterer

## The Course Outline for Furniture Upholstering

Instructional Units	1 Bast	2 Seager	3 Wright
1. <u>Webbing</u>	221		8
A. The location of webbing	8	9	18
B. Determine the amount of webbing	9		
C. Stretching and tacking	10		19
D. Webbing stretcher	2	3	9
2. <u>Springing Up</u>	282		
A. Number and size of springs	14		
B. Placing and fastening springs to webbing	15	26	21
C. Fastening springs to wood	17	27	22
D. Tying			
(1) Twines	289		
(2) Spring knot		29	24
(3) Tying to height	19	31	23
(4) Tacking spring twine to frame	20		25
(5) Cross tying	23	30	21
(6) Diagonal tying	26	30	21
(7) Return tying	25	40	29
3. <u>Spring Edge Making</u>			
A. Bending wire and springs	27	38	30
B. Attaching to springs	30	39	23
4. <u>Attaching Burlap</u>			
A. Related information	223		
B. Cutting, attaching to frame	30	40	32



Instructional Units	1 Bast	2 Seager	3 Wright
C. Sewing to springs	31	107	32
5. <u>Edge Roll</u>			
A. Roll on wood	32	160	46
B. Cord roll		13	
C. Roll edge on a round arm	36		47
D. Stitched edge	38	42	36
E. Stitched edge on wire	40	43	39
F. Wood roll		12	
G. Bridled edge		12	
H. Square edge		145	
6. <u>Stuffing</u>			8
A. Preparing stuffing	44	16	
B. Hair pickers	4		
C. Excelsior or wood wool	253		
D. Sea grass	254		
E. Coconut fiber	256		
F. Tow	257	6	
G. Sisal	258		
H. Moss	263	6	
I. Curled hair	266	5	
J. Kapok	270		
K. Down and feathers	274	6	
L. Angora goat hair	278		
M. Sewing down	44	35	
N. Top stuffing		42	49
O. Cotton	251	8	

Instructional Units	1 Best	2 Seager	3 Wright
7. <u>Muslin Cover</u>	228	6	
A. Measuring and cutting		17	
B. Tacking	45	18	37
8. <u>Adjusting Stuffing</u>			
A. Use of regulator	6	42	
B. Stuffing iron		3	
9. <u>Making a Square Edge</u>			
A. Stitching to hold square		34	36
10. <u>Sewing Machine</u>	7	2	
A. Making a french seam	48	49	
B. Welt foot	7		
C. Sewing welt into a seam	48	49	59
11. <u>Upholstering Covers</u>	45	46	
A. Selection		46	11
(1) Corduroy	230		
(2) Cretonne and chintz	231	51	
(3) Rep	233		
(4) Hair cloth	234		
(5) Damask and brocatelle	235	51	
(6) Tapestry	237		
(7) Velvet or velour	239	51	
(8) Mohair	242	51	
(9) Leather	245	52	
B. Making a layout or pattern	46	133, 150	12

Instructional Units		1	2	3
		Bast	Seager	Wright
C.	Use of cheaper materials where they do not show	46	47	
D.	Centering cover patterns, checking placement and grain of material		47	
12.	<u>Putting on the Cover</u>			
A.	Cutting to fit corners	50	51	53
B.	Making pleats, cutting away surplus material, and sewing the pleats at corners		4	38
13.	<u>Covering the Platforms and Front Borders</u>			
A.	Sewing platform cover to seat	105		42
B.	Sewing platform cover to the front	105		
C.	Sewing the upper border	106	45	
D.	Tacking the upper border to the front	106		
E.	Blind tacking the lower border	106		
F.	Tacking the lower border to the bottom	118		
14.	<u>Covering the Arms</u>			54
A.	Covering the inside of a round arm	99	76	
	(1) Draw stitching and tacking	101	164	
B.	Covering the outside of the arm			
	(1) Blind tacking	91	54	
C.	Covering and attaching a wood panel	83		61
	(1) Covering	84		

Instructional Units	1 East	2 Seager	3 Wright
(2) Attaching welt	84		59
(3) Nailing in place	85		
D. Making a stuffed panel	86		
E. Making a covered button	103		
15. <u>Covering the Inside Back</u>			
A. Layout		164	
B. Fitting the back		166	53
16. <u>Covering the Outside Back</u>			
A. Blind tacking	90		
B. Sewing the sides		54	
C. Welt tacking and sewing	92		60
17. <u>Use of Metaline Nails</u>	287		
A. Front arm panel	88		61
B. Outside arm	94		
C. Spacing	94		
18. <u>Gimping</u>	290		
A. Gimp tacks	286		
B. Mitered corners	96	55	
C. Gimping round pieces	98	55	
19. <u>Trimming</u>			
A. Making a shirred skirt	110		
(1) Covering with welt or brush edging	111		
B. Making and applying a box pleated skirt	112		5

Instructional Units	1 East	2 Seager	3 Wright
20. <u>Tufting</u>			
A. Laying out for the buttons	70		
B. Fastening buttons	72		
C. Buttoning		61	
21. <u>Piping or Fluting</u>			
A. Laying out	74		
B. Measuring, cutting, and sewing	75		
C. Stuffing the pipes and sewing	76		
D. Finishing the top of pipes	76		
22. <u>Cushions</u>			
A. Making and filling a down filled cushion	274	6	67
(1) Making the three section inside cover	80	65	68
(2) Filling the cushions	81		69
B. Making a cushion without springs		57	
(1) Making a cushion pattern		58	
(2) Filling the inner casing		56	
(3) Stitching the cushion		58	
(4) Fitting the outer cover on		59	
(5) Buttoning		60	
C. Making an inner-spring cushion			
(1) Making a pattern	56	58	

Instructional Units		1	2	3
		Best	Seager	Wright
(2)	Sewing of one side of bottom cover, leaving three sides unsewn to allow for insertion of stuffing	60	63	62
(3)	Making and sewing the spring sacks	285		63
(4)	Sewing the three sides by hand	59	63	66
D.	Filling cushions with hand irons	62	64	
(1)	Filling the irons and compressing	63		
(2)	Removing the irons	65		
(3)	Sewing	64		
(4)	Uses of regulator	2		
E.	Filling cushions with a cushion filling machine	66		
(1)	Filling the box with cotton and springs	67		
(2)	Compressing the box	69		
(3)	Pressing the foot lever	69		
(4)	Sewing and adjusting the cotton with the regulator and by beating	6	4	

### Furniture Upholstering Projects

Six sample projects have been selected for use in a course in furniture upholstery. It is recommended that the student's first project be of the simpler type in order that basic techniques may be acquired. The projects are numbered in accordance with the amount of more complex techniques to be employed.

Project No. I is a footstool or padded bench, considered the simplest type of upholstery project and consists mainly of the techniques of padding and covering.

Project No. II includes the process of webbing in the upholstery of an open structure.

Project No. III is a sag-seat chair which increases in complexity in that it has a back and seat with a webbing base to be upholstered.

Project No. IV, a chair with springs in the seat, requires the learning of the application of springs.

A chair with springs in the seat and back, Project No. V, is a more advanced project in spring chairs.

Project No. VI, an overstuffed chair or couch with inner-spring cushion, requires knowledge of nearly all basic techniques and includes the processes entailed in the construction of a loose pillow.

The Six Sample Projects	1 East	2 Seager	3 Wright
PROJECT NO. I			
<u>Footstool or Padded Bench</u> (Figure 1, page 27)	117		71
A. Use of upholsterer's hammer	2	3	
B. Sizes and kinds of tacks	286	7	7
C. Use of upholsterer's needles	3	3	9
D. Making the roll edge			
1. Tacking roll edge	120		46
2. Stuffing and tacking	122		47
3. Cord roll		13	
E. Separating and placing the stuffing	44	16	8
F. Tacking the muslin	125	88	71
G. Tacking the cover to bottom of frame	125	21	71
H. Regulator	2		10
I. Trimming with gimp or fringe, with brass or metaline nails	125		45
-----	-----	-----	-----
PROJECT NO. II			
<u>Upholstering an Open Structure</u> (Chair Seat)			
A. Webbing	222	6	8
1. Measuring	9	9	
2. Webbing location	8	10	18
3. Webbing stretching	13	9	19
4. Tacking	13	10	18
B. Burlap	223	11	8
1. Tacking	128	11	32



	1	2	3
	Bast	Seager	Wright
C. Stuffing and muslin cover		17	
1. Muslin cover	44	18	58
D. Covering			
1. Planning and cutting	128		
E. Cambric	128	11	
<hr/>			
PROJECT NO. III			
<u>Upholstering a Sag-Seat Chair</u> (Figure 2, page 28)	190	91	
A. Webbing			
1. Webbing plan for seat	193	95	
2. Webbing plan for back	191	96	15
B. Burlap			
1. Tacking on back and seat	192	96	32
C. Edge Roll			46
1. Front roll		97	
2. Side rolls	192		
D. Stuffing	191	98	8
E. Muslin Cover	192	98	58
1. Seating to receive buttons	193	97	
2. Placing cotton in the under- neath stitch	193		
3. Tacking muslin cover	193	98	
F. Procedure for plain back			52
1. Webbing	196	99	
2. Burlap	196	99	

	1	2	3
	Bast	Seager	Wright
3. Stuffing and cover	196	100	50
G. Covering			
1. Cutting and tacking	50	100	
H. Gimping or metaline nails	95	101	
I. Dust cloth or cambric	229	61	
-----			
PROJECT NO. IV			
A Chair with Spring Seat and Covered Arms and Back			
Spring Rocker			15
High-leg Chair	201		
Boudoir Chair	155	124	
(Figure 3, page 29 )			
A. Webbing	8	104	8
1. Fastening springs to webbing	15	32	21
2. Fastening springs to wood	17	27	22
B. Springs			
1. Sizes and kinds of springs and spring units	282	23	
C. Tying Springs			
1. Spring twine	289	24	
2. Spring tying knot		29	24
3. Tying to height	19	40	23
4. Tacking springs to the frame	20	31	25
5. Return tie	25	31	29
6. Cross tying	23		21
7. Diagonal tying	26	30	21
D. Attaching Burlap	223		

	1	2	3
	Bast	Seager	Wright
1. Cutting, attaching to frame and springs	30	40	32
E. Making an Edge Roll in Front	40	130	36
F. Covering the Arms	205	129	54
1. Small edge roll	36		46
2. Stuffing	44	41	8
3. Muslin covering, cutting for arms	132	53	
G. Making a Cutting Layout		133	
H. Fitting the Cover	49	134	
1. Cutting cover to fit corners and making pleats	50		53
I. Covering the Outside of the Arms and Back			54
1. Blind tacking at the top	90	132	
2. Sewing the sides of frames blind-tacked at the top		54	60
-----			
PROJECT NO. V			
<u>A Chair with Springs in the Seat and Back</u>			
<u>Morris Chair</u>			15
<u>Platform Rocker</u>			
<u>Cogswell Chair</u>		138	
<u>Modern Armless Chair</u>			
(Figure 4, page 30)			
A. Webbing	8	10	8
1. Fastening springs to webbing	15	32	21
2. Fastening springs to wood	17	27	22
B. Springs			
1. Sizes and kinds of springs and spring units	282	23	

	1	2	3
	Bast	Seager	Wright
C. Tying Springs			
1. Spring twine	289	24	
2. Spring tying knot		29	24
3. Tying to height	19	40	23
4. Tacking springs to the frame	20	31	25
5. Return tie	25	31	29
6. Cross tying	23		21
7. Diagonal tying	26	30	21
D. Attaching Burlap	223		
1. Cutting, attaching to frame and springs	30	40	32
E. Making Edge Roll	40	144	36
F. Covering the Arms	205	148	54
1. Small edge roll	35		46
G. Stuffing	44	144	8
H. Covering the Seat and Back with Muslin	44	147	55
I. Final Covering			
1. Making a cutting layout and cutting	45	150	
2. Machine sewing of covering	47	48	
(a) French seam and sewing a welt into a seam	48	49	59
3. Putting on cover	49	150	
(a) Cutting covers to fit corners and making pleats	50	51	53
(b) Covering the arms		148	54

	1	2	3
	Bast	Seager	Wright
4. Covering outside of arms and outer back of chair	89	53	
(a) Blind tacking	90	54	
(b) Sewing outside arms and outer back	93	54	
(c) Using metaline nails	94	78	
J. Making a Cushion for an Over-stuffed Chair	55	57	62
1. Filling cushion by hand	58	63	63
2. Filling cushion with hand iron	62	64	
3. Filling cushion with machine	66		
K. Applying Cambric Dust Cloth	228	6	
<hr/>			
<u>PROJECT VI</u>			
<u>An Overstuffed Chair or Couch</u>			
<u>Chair</u>		154	
<u>Couch</u>	213	168	6
(Figure 5, page 31)			
A. Webbing	8	172	8
1. Fastening spring to webbing	15	32	21
2. Fastening springs to wood	17	27	22
B. Spring			
1. Sizes and kinds of springs and spring units	282	23	
C. Bending and Fastening Wire Edge	28	39	
D. Tying Springs			
1. Spring twine	289	24	
2. Spring tying knot		29	24

	1	2	3
	Best	Seager	Wright
3. Tying to height	19	40	23
4. Tacking springs to the frame	20	31	25
5. Return tie	25	31	29
6. Cross tying	23		21
7. Diagonal tying	26	30	21
E. Attaching Burlap	223		
1. Cutting, attaching to frame and springs	30	40	32
F. Making an Edge Roll or Stitched Edge	38	130	39
G. Padding the Arms and Back	98	165	54
1. Small edge roll	36	11	46
H. Stuffing	44	41	8
I. Muslin Covering	44	165	55
J. Final Covering			60
1. Making a cutting layout and cutting		164	
2. Machine sewing of covering	47	164	
(a) French seams and sewing a welt into a seam	48	49	59
3. Upholstering platforms and front borders	104	44	42
4. Covering arms			54
(a) Covering inside of round arm	100	76	55
(b) Blind tacking and stitching outside arm		54	
(c) Covering and attaching loose panels	83		61

	1	2	3
	East	Seager	Wright
5. Covering back			
(a) Covering inside back		166	52
(b) Covering outside of back		90	54
K. Making a Cushion for an Over-stuffed Chair	55	57	62
1. Filling cushion by hand	58	63	63
2. Filling cushion with hand iron	62	64	
3. Filling cushion with machine	66		
L. Applying Cambric Dust Cloth	228	6	
M. Various Trimming			
1. Gimping	95	55	
2. Metaline nails	94	78	
3. Shirred and pleated skirts	109	82	6

### Project Drawings

Because of the many styles of furniture existing today, the five drawings of projects appearing on the following pages are to be considered as specimens of types of projects on which are employed different techniques of upholstering.

The student should be allowed to choose a project which resembles the specimen in the processes to be used.

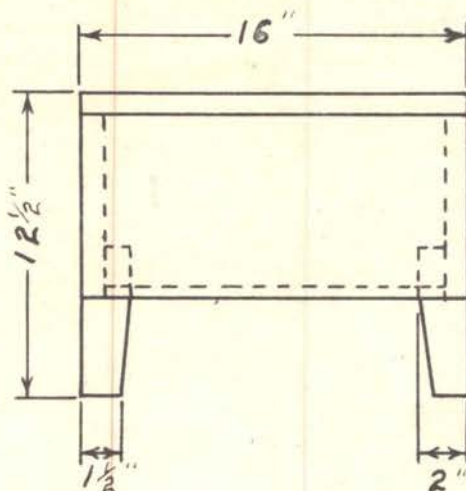
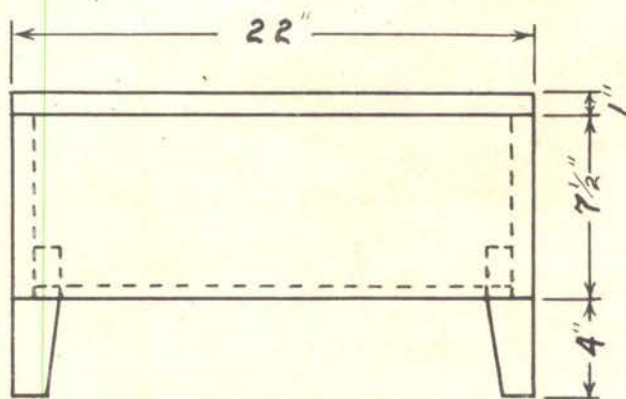
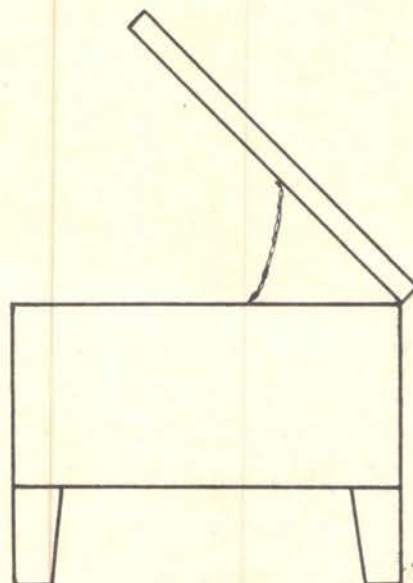


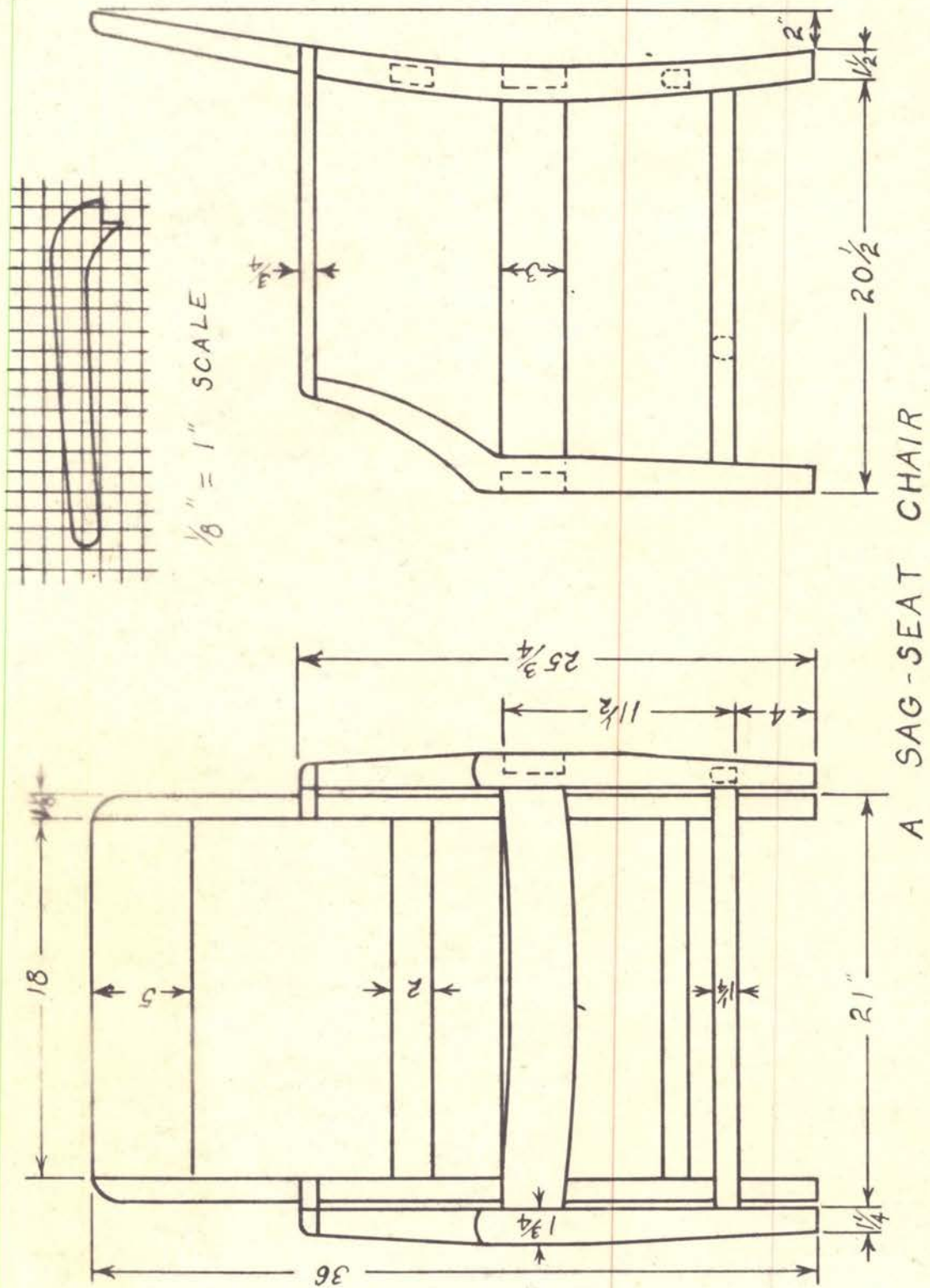
## OPEN-LID STOOL

NO SPRINGS

WITH STORAGE SPACE

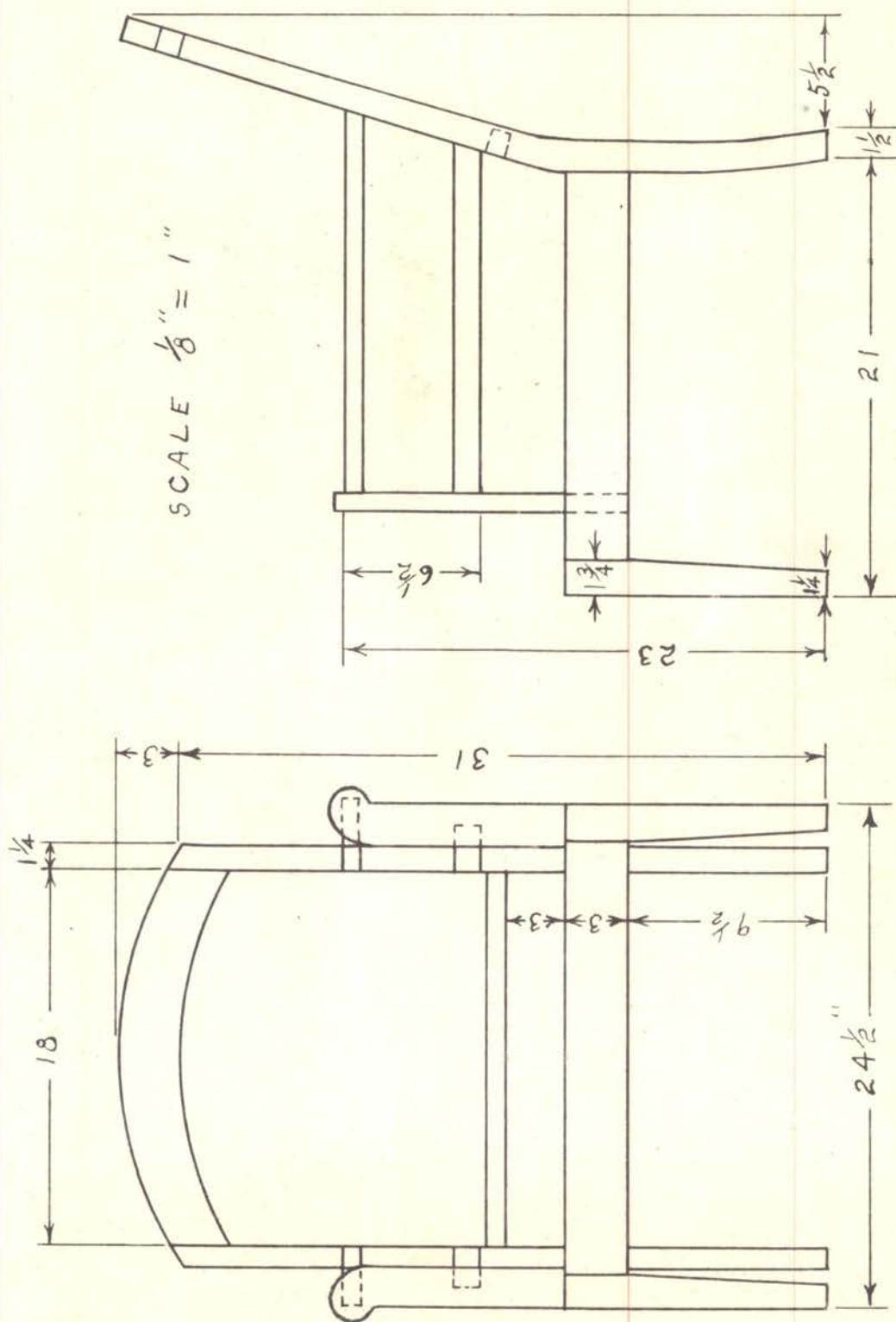
Fig. 1

SCALE  $\frac{1}{8}'' = 1''$ 



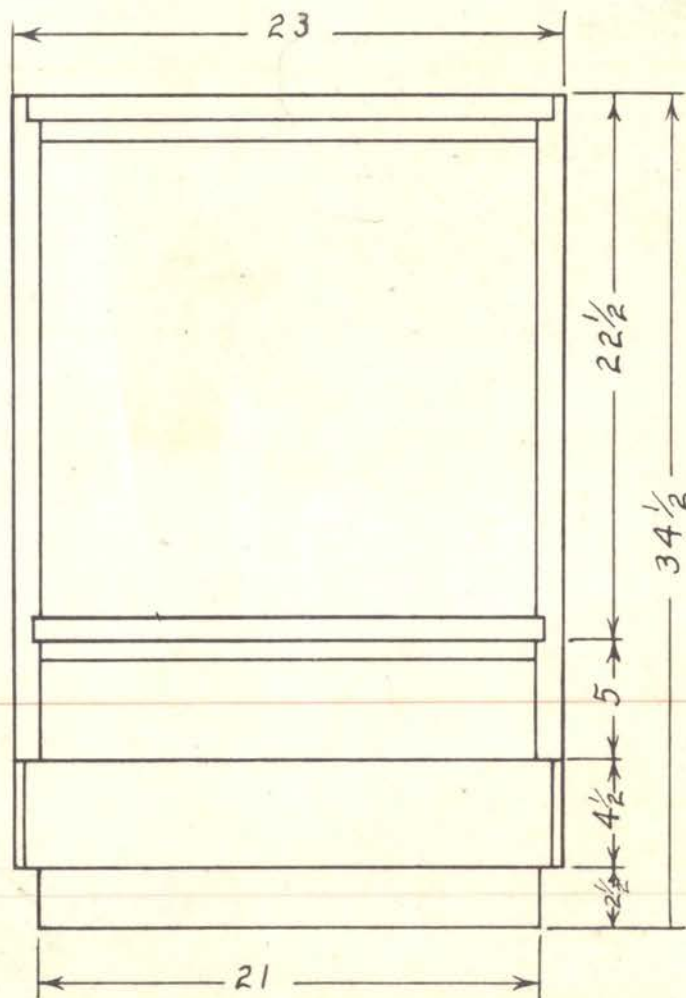
A SAG-SEAT CHAIR

FIG. 2



A BOUDOIR CHAIR

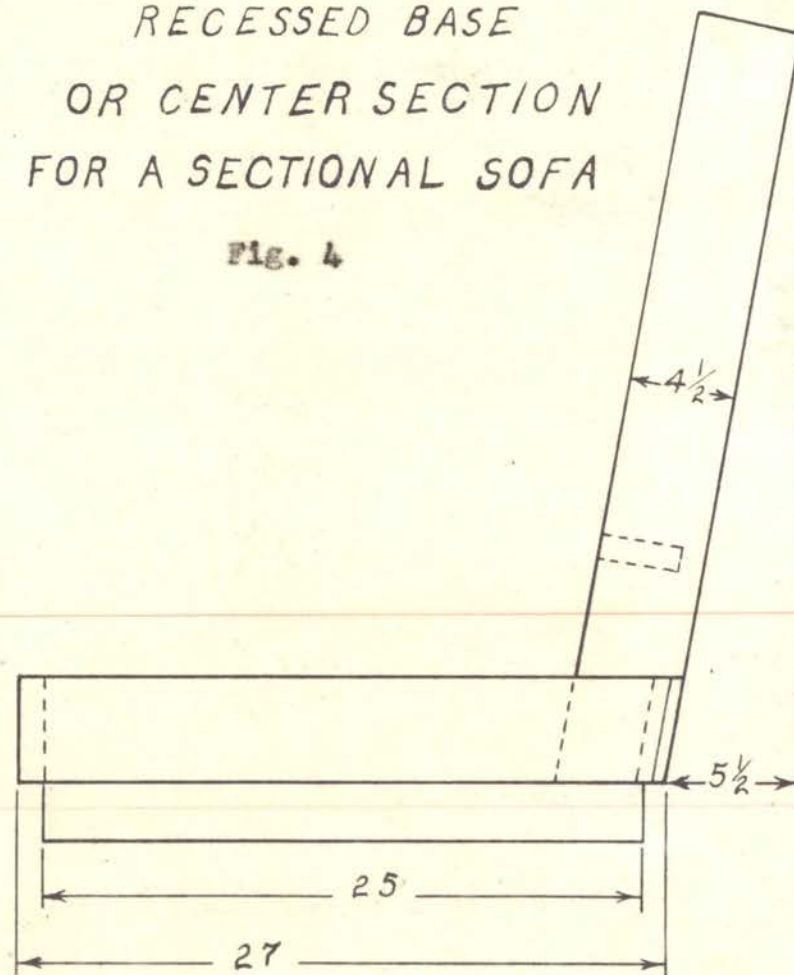
FIG. 3



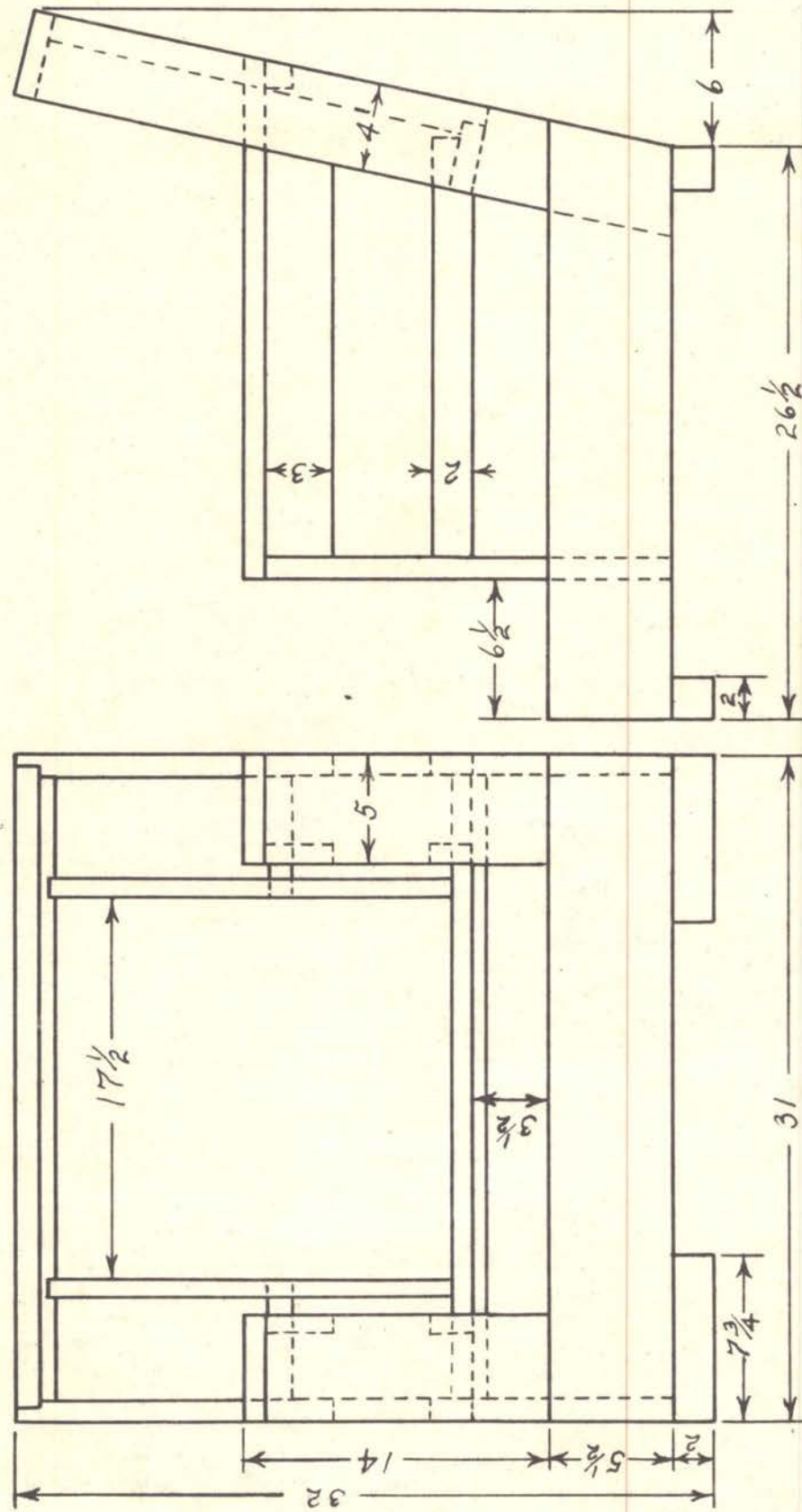
SCALE  $\frac{1}{8} = 1$

A MODERN CHAIR WITH  
RECESSED BASE  
OR CENTER SECTION  
FOR A SECTIONAL SOFA

Fig. 4







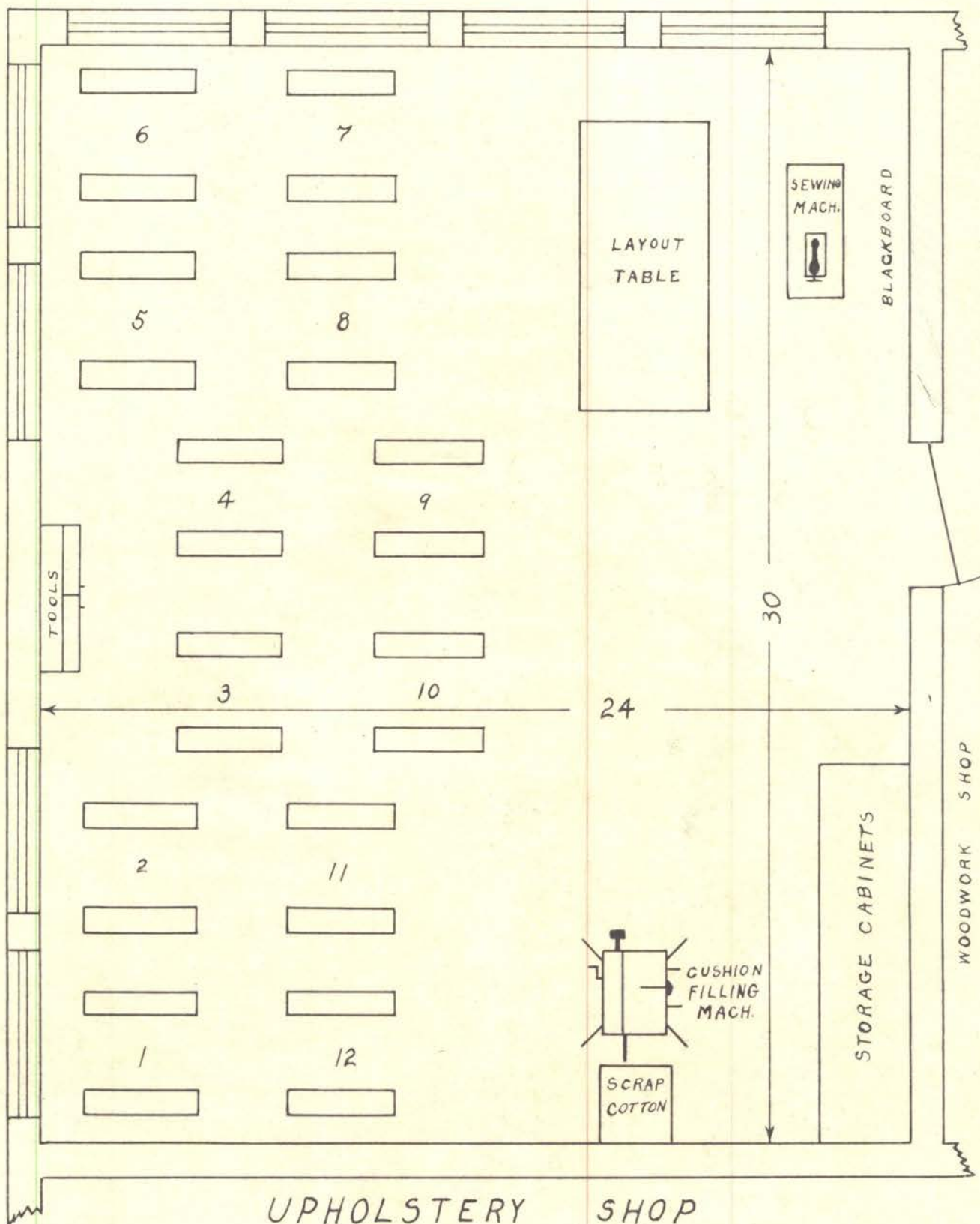
A LAWSON TYPE WING-TIPPED CHAIR

FIG. 5

### Upholstery Shop Plan

The shop plan appearing on the following page is laid out with work stations for twelve students, indicated by the placement of the twelve pairs of trestles.

This shop could be a part of a general shop, or one section of the woodwork shop. However, it may be set up on a small scale in a corner of the woodwork shop.



UPHOLSTERY SHOP

SCALE  $\frac{1}{4}" = 1"$

12 WORKING STATIONS

Fig. 6

List of Equipment Needed to Set Up a Course in Furniture Upholstering

This equipment list is based on the needs of twelve students. It is assumed that other sundry equipment needed will be available in the woodwork shop or general shop.

No. of Items	Distributor or Manufacturer's Name & Number	Name of Tool	Size or Weight	Cost per Unit	Total Cost
4	Wiss No. 20	Shears	10"	\$ 4.00	\$ 16.00
24	Made in shop	Trestle with padded roll	36" long 30" high	.....	.....
12	Osborne No. 254	Webbing stretcher	7 1/2" x 3 3/4"	.65	7.80
2	Stanley	Claw hammer	16 oz.	1.90	3.80
12	Osborne No. 222	Magnetic hammer	5 1/2" head 7 oz.	1.85	22.20
2	Mount No. 15	Regulator	8" light	.55	1.10
4	Berbecker No. 909	Straight needle, double pointed	10" light	.15	.60
4	Berbecker No. 912	Straight needle, double pointed	8" light	.15	.60
4	Berbecker No. 918	Curved needle	3" light	.08	.32
4	Berbecker No. 918	Curved needle	5" light	.10	.40
4	Berbecker No. 918	Curved needle	6" light	.12	.48
4	Berbecker No. 919	Curved needle	8" heavy	.20	.80



6	Osborne No. 76	Trimming knife	3/4" x 3 3/4"	.70	4.20
4	Berbecker No. 901	Single round point needle	12"	.13	.52
4	Berbecker No. 901	Single round point needle	8"	.09	.36
2	Osborne No. 404	Ripping tool	8 3/4" x 1/2"	.85	1.70
1	Osborne	Webbing pliers	8 3/4"	3.00	3.00
24	Reese B. Davis & Company	Pins (skewers)	3"	.30 doz.	.60
1	Pawley Company "Handy" Jr.	Button machine		16.50	16.50
1	Singer Sewing Machine Company	Sewing machine	No. 16-188	180.00	180.00
*1	Leo Lipton "Challenger"	Foot- power cushion filling machine	Box size, length 30", width 29", open 24".	69.50	69.50

GRAND TOTAL.....\$ 330.48

\*Should it be desired that the less expensive hand-power type of cushion stuffer be substituted for the foot-power cushion filling machine, the following might be ordered.

*1	Texas Supply Company	Hand- power cushion stuffer	24"	8.75	8.75
----	-------------------------	--------------------------------------	-----	------	------

ALTERED GRAND TOTAL.....\$ 269.63

### Sources of Tools, Equipment, Materials, and Supplies

For the most part, this compilation lists the companies which replied to a form letter (Refer to page 42) sent to approximately sixty concerns, inquiring about various items needed for a course in furniture upholstering. The supplement to this report contains all materials listed below which were received from the various companies written. The names of several upholstery supply dealers in the state of Oklahoma have been inserted also, as a convenience for the student and instructor desiring to obtain supplies locally.

### Sources of Tools, Equipment, Materials, and Supplies; With Descriptions of Free Booklets, Charts, and Other Teaching Aids

\*Indicates Oklahoma Sources

1. S & B Berg Company, 49 East 21st Street, New York City. Upholstery fabric jobber.
2. Clark & Burchfield, Inc., 104 North Robertson Boulevard, Los Angeles, California. Distributors of Cohyde, Boltarflex, and Blanchardized Vinylite all plastic upholstering materials. Sample folders of plastic upholstering materials are available. Wide range of colors.
3. \*M. G. Davis Supply Company, 724 North Harvey, Oklahoma City. Distributors of Plastovin. Sample folder containing all-plastic upholstering material and printed information on cutting, stitching, tacking, and reinforcing of same.
4. Reese B. Davis & Company, 813-15 Lamar Street, Fort Worth, Texas. Distributors of upholstery materials and supplies. Upholstery Sample Books Nos. 104 and 107, with accompanying price list sent on request. Also price list for upholstery supplies.
5. \*Fabric Center, 713 North Hudson, Oklahoma City. Upholstery fabrics, wholesale.

6. Flex-o-leters, Inc., P. O. Box 508, Carthage, Missouri. Manufacturers of pad supports which take the place of burlap or other fabric used between the spring construction and padding. Also manufacture flex-o-lator cushion covers which consist of wires woven through burlap and are supposed to keep padding from sinking into coil construction, thereby giving cushion longer life. Samples and price lists available. Pictures showing products and method of application are available.
7. The Goodyear Tire & Rubber Company, Inc., Akron, Ohio. Manufacturers of "Airfoam" and cushions made therefrom. Samples of various types and thicknesses of "Airfoam" suitable for mounting are available for use as teaching aid. Also six-page folder giving dimensions of cushions manufactured by Goodyear and four mimeographed pages of background material concerning "Airfoam."
8. M. Halpern & Sons, Inc., 2229-31-33 North American Street, Philadelphia, Pennsylvania. Manufacturers of furniture frames. Catalog and price lists sent upon request.
9. \*Harry Keeton Supply Company, Inc., 1522 West Main Street, Oklahoma City. Manufacturer and wholesale jobber of upholstery supplies. Descriptive price list available.
10. Leo Lipton Enterprises, 50 Greencraig Road, Los Angeles, California. Illustrative card showing photograph of foot-power cushion filling machine and giving dimensions and cost sent on request.
11. Lorraine Fibre Mills, Inc., Bond and Fourth Streets, Brooklyn, New York. Processors, converters, importers, and manufacturers. Samples suitable for mounting are available for the following items: Jute webbing, edging, burlap, palm fibre, twisted paper, kapok, black cambric, tucking, denim, velourette, muslin, and jute pads. Price lists accompany samples.
12. Lussky, White & Coolidge, Inc., 214 West Monroe, Chicago, Illinois. Upholstery tools, machines, fabrics, trimmings, and accessories.
13. Marshall & Moore, Inc., 3024 Greenville Avenue, Dallas, Texas. Artificial leathers and fabrics.
14. Michigan Frame Company, 1600 Marshall Avenue, Southeast, Grand Rapids, Michigan. Manufacturer of frames. Catalog No. 48 and price list mailed on request.

15. Ferdinand W. Mostertz & Sons, Inc., Dauphin and Tulip Streets, Philadelphia, Pennsylvania. Manufacturers of pile fabrics.
16. Owen Silent Spring Company, Inc., Bridgeport, Connecticut. Manufacturers of cushion units made of wool, rubber, and steel springs; soft back units; Miller Quality upholstery springs, and steel webbing. Price lists on these items available. Illustrated folder on "Neversag" steel webbing is good for step-by-step instruction given in use of product.
17. The Pawley Company, 26th and Walnut Streets, Denver, Colorado. Distributors of the following materials:
  - Gaydon Upholstery Fabrics.
  - Champion Picker - used for picking hair, moss, tow, and other stuffings having long staple.
  - Champion Special - for short staple materials.
  - Folder on Champion Picker and Champion Special containing illustrations and pertinent data is available.
  - Various upholstering machines, tools, supplies, and fabrics. Catalog No. 948 contains listing and prices.
  - U. S. Plastic Naugahyde. Sample folder available.
  - Cotton moss edge, welting, snap tapes, zippers, and various twists. Sample folder No. 148D and price list available.
  - Centre braid gimp, rayon boucle edging, rayon scroll gimp, rayon bullion fringe, sewing threads. Sample folder No. 148F and price list available.
  - Upholstery frames. Charts containing illustrations available.
  - Masland Duran all plastic upholstery. Sample booklet 5420 available and contains wide variety of colors, finishes, and tailoring instructions.
  - Masland Durasol all plastic upholstery. Sample folder 2214, containing wide variety colors and finishes, is available. Folder "How to Use Masland Duran" may be had on writing.
  - Durosol plastic coated leather. Sample folder 1882 available.
  - Lochner foot operated cushion filler, extension boxes, and galvanized hand filler.
  - "Klinch-it", new method for attaching springs to almost all types of web bases in upholstered pieces. Illustrated material available.
  - Power line hog ring plier used for tying Marshall springs, attaching sisal pads, etc.

Mount upholsterers' tools.  
 Hairflex - curled hair-rubber filler.  
 Koylon foam rubber.

18. Purified Down Products Corporation, 350 Fifth Avenue, New York City. Manufacturers and importers of feathers and downs. Samples available of down and feather mixture.
  - A. "The Goose that Laid the Golden Egg," 15 page booklet containing general information about down and feathers.
19. Joseph Renkel, Inc., 216 East 53d Street, New York City. Wholesale distributors and manufacturers' representatives for Osborne upholsterers' tools, Mount upholsterers' tools, extensive line of upholstery supplies. Samples of upholstery materials sent on request. Distributors of Koylon foam rubber, Armour's Hairflex.
  - A. "The Art of Cushioning," 24 page booklet describing fashioning of cushions with Koylon.
20. Rubber Development Bureau, 1631 K Street, Northwest, Washington, D. C. Serves as information center on rubber and rubber products. Sample latex foam rubber sent on request.
  - A. "Latex Foam," 11 page pamphlet on new cushioning material.
21. F. Schumacher & Company, 60 West 40th Street, New York City. Upholstery fabric jobber.
22. The Seng Company, 1450 North Dayton Street, Chicago, Illinois. Manufacturers of Seng "Klinch-it," device to clip springs to webbing. Information sheets on Seng-Web and Cable-eze Web Construction, both of which are new developments for use in upholstering. They replace the usual strip webbing.
  - A. "Seng Handbook of Furniture Facts," 136 page booklet containing discussions on furniture woods, upholstered furniture construction, fabrics and care of furniture.
23. \*Shilliam Supply Company, Inc., Chickasha, Oklahoma. Fabrics and supplies.
24. \*Southwest Fabrics Inc., 1530 East 11th Street, Tulsa. Fabrics and complete line of upholstery supplies.

25. Texas Supply Company, 112 St. Louis Avenue, Fort Worth, Texas. Wholesale Jobbers of upholstery fabrics, supplies, tools, and machines.
26. J. H. Thorp and Company, 250 Park Avenue, New York City, New York. Upholstery fabric jobber.
27. E. W. Twitchell, Inc., 3d and Somerset Streets, Philadelphia, Pennsylvania. Manufacturer of spring edges, edge rolls, various cords and blind tacking.
  - A. "Under the Cover Helps for the Upholsterer", large mounting board containing mounted samples of products.
28. F. P. Woll and Company, Frankford, Philadelphia, Pennsylvania. Manufacturers of curled hair and rubberized curled hair (Wollastic).

Form Letter

A copy of the form letter sent to manufacturers and distributors of various upholstering materials appears on the subsequent page. This letter was sent in order to obtain the prices of supplies and equipment necessary to set up an upholstering shop; also to obtain samples and information on materials currently being used or developed in this field.

The list of Sources of Tools, Equipment, Materials, and Supplies appearing on pages 36 to 40 catalogs the samples, information, teaching aids, and price lists received in answer to the form letter. Also given are the names and addresses of these recipients of the form letter.

A supplement, in the form of a case containing items received in answer to form letter, will accompany this report and should prove beneficial in ordering supplies, equipment, and as a source of general information.

Oklahoma  
Agricultural and Mechanical College  
DIVISION OF ENGINEERING  
STILLWATER

DEPARTMENT OF  
INDUSTRIAL ARTS EDUCATION  
AND ENGINEERING SHOPWORK

October 8, 1948

To: Manufacturers and Distributors of  
Upholstering Materials

Gentlemen:

I am starting a Master's Degree research project in which a course of study will be made for use in the upholstering classes in Industrial Arts Shops. This research is part of the requirements for a Master of Science Degree under the direction of Mr. C. L. Hill, Associate Professor, Department of Industrial Arts Education and Engineering Shopwork, Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma.

I would like to secure all information on available supplies and equipment, which your company manufactures or distributes.

Information, including catalogs, descriptive bulletins, circulars and even samples, are desired for such supplies as:

Upholstery Fabrics	Foam Rubber
Artificial Leathers	Kapok
Muslin	Down and Feathers
Cambric	Springs
Webbing	Tacks
Burlap	Twine
Denim	Metaline Nails
Cotton	Furniture Frames
Sea Grass, Sisal,	Equipment and Tools
Moss, Hair, etc.	Upholstering
Miscellaneous Accessories	

Your price lists, catalogs, bulletins and samples will be listed in the report and shall be of help in choosing equipment, supplies, and upholstery fabrics for the upholstery classes.

Very truly yours,

Approved: \_\_\_\_\_

C. L. Hill, Advisor

Ross E. Nichols  
Industrial Arts Department  
Room 102  
Oklahoma A. and M. College  
Stillwater, Oklahoma



Sample Tests for Course in Furniture UpholsteringTest I

DIRECTIONS: Write the answers to the following questions in the answer space provided after each question.

1. How much webbing will be required for a chair 30 inches wide and 30 inches deep, using 5 strips front to back and 5 strips across? \_\_\_\_\_
2. What is the main thing to consider in making the placement of the webbing on the frame? \_\_\_\_\_
3. Why are tacks staggered in tacking on the webbing? \_\_\_\_\_
4. What is nearly all upholstery webbing made of? \_\_\_\_\_
5. How are the different grades of webbing indicated? \_\_\_\_\_
6. What would be the approximate size tack used on the bottom webbing of an overstuffed chair with a one-inch thick frame? \_\_\_\_\_
7. What other tool is used for stretching webbing besides a regular webbing stretcher? \_\_\_\_\_
8. Why should the top of the springs be three inches above the frame after being tied? \_\_\_\_\_
9. What will determine the size of the spring to be used? \_\_\_\_\_
10. What will be the result of using springs which are too large or if too many are used? \_\_\_\_\_
11. Where are springs placed in relation to the webbing? \_\_\_\_\_
12. Why must the springs be directly in line? \_\_\_\_\_
13. In stitching the springs to webbing, how many stitches should be used? \_\_\_\_\_
14. Draw a plan for stitching two rows of springs to webbing. (Use back of test paper)

15. Name two ways of attaching springs to wood. \_\_\_\_\_  
\_\_\_\_\_
16. Why is webbing or some cloth used under the springs on wood? \_\_\_\_\_
17. What is the result of cross tying the springs too tightly? \_\_\_\_\_  
\_\_\_\_\_
18. What is the main benefit in the diagonal tying of the springs? \_\_\_\_\_
19. In measuring the twine for use in tying springs, how much should be allowed for knots for each spring? \_\_\_\_\_  
\_\_\_\_\_
20. From what is most burlap made? \_\_\_\_\_
21. How are qualities of burlap determined? \_\_\_\_\_  
\_\_\_\_\_
22. Why is the burlap sewed to the springs? \_\_\_\_\_  
\_\_\_\_\_
23. How many stitches are used on each spring? \_\_\_\_\_  
\_\_\_\_\_
24. Draw diagram showing how the stitches would be placed on two rows of springs when stitching burlap to the springs. (Use back of test paper)
25. What results if the burlap is stretched too tightly? \_\_\_\_\_  
\_\_\_\_\_

## TEST II

**DIRECTIONS:** Encircle or underscore true or false, whichever best expresses the condition of each of the following statements.

- |  |            |
|--|------------|
| 1. The chief purpose of an edge roll is to keep the stuffing on the edge of the wood.                    | True False |
| 2. The first tacking on an edge roll is called blind tacking.  | True False |
| 3. It is not necessary to lay pleats in the first tacking on curved wood surface in making an edge roll. | True False |

4. The more rows of stitches used in making a stitched edge the sharper the edge will be. True False
5. A curved needle is used on the first row of stitches on an edge roll. True False
6. A straight needle is used on the second row of stitches on an edge roll. True False
7. A roll edge and a stitched edge are the same. True False
8. Moss may be used as it is taken from the bales. True False
9. The stuffing should be stitched down to avoid getting out of place. True False
10. Muslin is used for a first covering over the stuffing. True False
11. To avoid wrinkles you should start tacking muslin at the corners. True False
12. All the stuffing is stitched down. True False
13. Muslin is so called from Mosul, the city where it was first made. True False
14. Excelsior is sometimes used as a stuffing. True False
15. Sea Grass grows only in the cold northern Canada and north Atlantic states. True False
16. Palm fiber is used as a substitute for hair. True False
17. Tow is taken from coconuts. True False
18. Sisal grows in Canada. True False
19. Spanish moss grows in Spain. True False
20. Moss graded KX is better than KXXX moss. True False
21. Straight hair is better for stuffing than curly hair. True False
22. Kapok does not absorb water. True False
23. Duck feathers are just as good for stuffing as goose feathers are. True False

24. More buoyancy is given a cushion when feathers are added to down. True False
25. A muslin under-cover is found more often in cheap furniture than in the higher priced furniture. True False

### TEST III

DIRECTIONS: Fill in the proper word in the blank space or spaces provided in each of the following statements.

1. In cutting the covering, the \_\_\_\_\_ pieces should be cut first.
2. Pile fabrics such as velour, mohair, must be put on so that the nap brushes (a) \_\_\_\_\_ on seats and (b) \_\_\_\_\_ on the backs and arms.
3. In making seams, stitches should be at least \_\_\_\_\_ inches from the edge of the goods.
4. The heavier the materials, the \_\_\_\_\_ the stitches should be.
5. A \_\_\_\_\_ color thread should be used in sewing a plain material.
6. \_\_\_\_\_ is the process where cording is sewed into the seams.
7. To avoid wrinkles in putting on covers, begin tacking at the \_\_\_\_\_.
8. All pleats on seats are laid to the (a) \_\_\_\_\_ and pleats on backs and arms are laid (b) \_\_\_\_\_ when making pleats on a chair.
9. \_\_\_\_\_ side or sides are left open when stuffing a cushion by hand.
10. \_\_\_\_\_ are used to hold the loose side while sewing up a cushion.
11. The \_\_\_\_\_ can be used to adjust the cotton after the cushion has been sewn.
12. In an ordinary down and feather filled cushion casing there should be \_\_\_\_\_ compartments or pockets.

13. The inner casing of a down and feather filled cushion should be made of\_\_\_\_\_.
14. A down and feather cushion can be filled by hand or by using a\_\_\_\_\_.
15. The\_\_\_\_\_section of the casing should be filled firmer than the other sections in a down and feather cushion.
16. The inner casing should be made\_\_\_\_\_so it will fill out the corners of the cushion.
17. When tacking on the outside back or arms at the top, using a cardboard strip, tacking on the wrong side of the material, it is called\_\_\_\_\_tacking.
18. Gimp must be\_\_\_\_\_in square corners.
19. The welt is tacked to the\_\_\_\_\_when it is put around the loose panel in the front of a chair arm.
20. The original mohair was made from\_\_\_\_\_.
21. Excelsior is made of either\_\_\_\_\_or\_\_\_\_\_.
22. \_\_\_\_\_springs are used only in the seats of furniture.
23. Upholstery tacks come in an assortment of sizes from No.\_\_\_\_ to No.\_\_\_\_\_.
24. Spring twine comes in\_\_\_\_\_balls.
25. \_\_\_\_\_is used on the bottom of furniture for a dust cloth.

GLOSSARY

1. Aniline: Term applied to dyes derived from coal tar. Used in coloring fabrics.
2. Brocade: Silk or rayon fabric in figure weave. Designs are woven in contrasting colors from the background and are raised. Frequently silver and gold threads are introduced into filling threads.
3. Brocatelle: Heavy silk or rayon fabric in figure weave. Extra filling yarns throw pattern into higher relief than on brocade.
4. Burlap: Plain cloth woven from jute yarn.
5. Button Machine: Machine with which buttons may be made in any size or style. Machine also used for attaching snap fasteners, eyelets, grommets, ventilators, washers, etc., by adding the necessary attachments.
6. Cambric: Cambric used by upholsterers is a rather stiff cotton fabric, with a slightly glazed surface produced by calenderizing. It is either black or white. White cambric is used for cushion and pillow casing, and black cambric for tacking underneath upholstered furniture, the black color being inconspicuous. As the cloth is made dustproof by sizing and glazing, it prevents dust from the stuffing from falling to the floor.
7. Chaise Lounge: (long chair) A double or couch chair; a couch with a chair back at one end.
8. Chintz: A plain woven fabric of fine cotton yarns. May be glazed on one side. Usually printed with floral patterns.
9. Coconut fiber: From the outer husk of the coconut and longgrass-like substance that envelops palm trees. Generally called "vegetable palm fiber." Only the short, curly fibers are used for upholstery stuffing. It is a firm, springy filler and is used as a substitute for hair.

10. Cretonne: Printed drapery fabric of cotton or linen in all variety of weaves and finishes. May include chintz (only difference being size of patterns, which are smaller in chintz). Weave: plain or fancy.
11. Curled hair: Processed hair of horses, cows, hogs, used as an upholstery filler.
12. Curved Upholstery Needle: From 3 to 10" in circumference. Used in sewing burlap to springs, and in sewing stuffing to burlap where springs interfere with the use of the straight needle. Used also for sewing to flat surfaces where straight needle would not be convenient for use.
13. Damask: Firm glossy fabric, woven so that one side has warp designs in high gloss. Filling threads of less gloss form the background. Opposite side is in reverse.
14. Denim: Heavy cotton twill made of coarse yarns. Denim is sold by weight. Weave: twill or figure.
15. Down: Down is the covering of young birds and the undercoating of adult birds. It has practically no quill because the thread-like fibers radiate from a common center in the form of a quill point. Feathers added to down for filling give a cushion more buoyancy.
16. Excelsior: Made either of basswood or poplar. After processing, wood is shredded by the knives of excelsior-making machine which is set according to the grade of excelsior required. Used for filling purposes.
17. Filling threads: The threads of a fabric that run cross-wise from selvedge edge to selvedge edge.
18. Flax twine: Used for stitching edges, sewing springs to webbing and burlap, and all kinds of hand sewing by upholsterers.
19. Fluting: (Piping) To form grooves; used extensively on barrel chairs, fan backs, etc.

20. Frieze: A pile fabric (usually mohair) of uncut loops. Designs may be produced by contrast of cut and uncut loops, by different colored yarns or by printing the surface.
21. Gimp: Narrow tape of silk, cotton or rayon, used for applique and for hiding tacks in upholstering furniture.
22. Gimp tacks: Distinguished by small round head. Used to tack cloth gimp to furniture, also to tack outside covering to arms and backs. Come in sizes from two to eight ounces.
23. Hair Picker: Machine used for loosening and cleaning stuffing materials.
24. Inner-springs: Used inside of loose cushions. Sets made up of small springs, three and a half inches high and two and a half inches in diameter.
25. Jute twine: Softer than spring twine. Used for tying down the pillow springs in backs and arms.
26. Kapok: (silk floss) Silky fiber which does not absorb moisture. Used extensively for cushions and boat pillows. Will hold twenty times its own weight above water.
27. Matelasse: Fabric having a quilted surface produced on the loom. A figured or brocaded cloth having a raised pattern as if quilted or wadded.
28. Mercerizing: Chemical process which renders cotton permanently more lustrous, stronger and more susceptible to dye.
29. Meteline Nails: Used to attach gimp or outer covering to furniture and for decorative purposes. Nails have color, design or finish for various types and styles of covering. Available in either solid brass or steel.
30. Mohair: Hair of the Angora goat, long and silky; when manufactured, called mohair. Pile fabric with back of cotton or wool and pile of mohair. Cut and uncut loops; two-toned effects due to pile of one color, back of another.



31. Morris chair: A large, easy chair with arms usually extending beyond the back and adjustable at various angles; named for its inventor, William Morris.
32. Moss: Upholstery stuffing. Graded from XX to XXXX (more X's indicate longer curing and double ginning, resulting in a cleaner and better stuffing).
33. Muslin: A plain weave cotton fabric.
34. Nap: Hairy or downy surface found on some fabrics, especially wool. Not to be confused with pile.
35. Needlepoint: Patterns known as needlepoint are hand worked with a needle, using wool or silk.
36. Pile weave: (pile) An extra set of warp or filling threads is interlaced into the cloth to form loops. These loops may be cut as in velvet, or left uncut as in frieze.
37. Regulator: The regulator is made in sizes from six to twelve inches long. It is used to even out irregularities in stuffing and to assist in shaping edges. The ten inch size will be found most useful.
38. Rep: Firm cotton, wool, rayon or silk fabric with heavier filling thread than warp thread. Crosswise rib is very distinct. Has plain weave.
39. Ripping tool: Used for removing tacks and old upholstery.
40. Sateen: Mercerized cotton fabric in satin weave, better grades resemble satin made of silk; true sateen has the filling on the surface.
41. Sisal: The fiber of the sisal plant is dried and sorted into various grades. The shorter fibers are used for stuffing.
42. Splat: The central member of a chair back.
43. Skewer: (upholsterer's pin) A small wire bent into a ring at one end and sharpened at the other. It can be obtained from three to three and a half inches in length. Its function is to fasten covers

temporarily in place while being worked or fitted.

- 44. Spring twine: Used for tying down the heavy upholstery springs in the seats.
- 45. Straight needle: From six to twenty inches long. Used to sew springs to webbing, to sew stuffing to burlap. Double and single pointed.
- 46. Stuffing: That which is used for filling or padding of cushions, etc., examples: moss, hair, and cotton.
- 47. Stuffing iron: This tool is used to push stuffing into corners and crevices which cannot be reached by the hand.
- 48. Tow: Tow for upholstery purposes is made from the stalk of the flax plant. Used because it is a fiber that does not break easily. Not recommended for use where resiliency is required, as it mats or packs down very readily on compression.
- 49. Trestle: Similar to saw-horse with padded edge to prevent the furniture from slipping off and to prevent marring of finished wood-work.
- 50. Tufting: To fasten padding of chairs by stitching and tightly drawing threads or buttons at intervals through an upholstered section of furniture to secure the padding.
- 51. Upholstery springs: Used in seats of furniture, made of heavy wire, from nine to eleven gauge, four to fourteen inches in height. May be had with a wide center (soft spring) or a narrow center (stiff spring).
- 52. Upholstery tacks: Distinguished by flat head, in sizes from one ounce to twenty-four ounces.
- 53. Warp: The threads of a fabric that run lengthwise and parallel to the selvedge.
- 54. Webbing: A stout, close-woven tape made entirely of jute fiber. When properly stretched and tacked, jute webbing will stay in place and preserve the shape of the cover for a long period of years.

55. Webbing pliers: Wide-jawed pliers used in restretching webbing.
56. Webbing stretcher: Used to stretch webbing across the openings of furniture. Padded on end that is placed against frame, to prevent marring any exposed finished woodwork.
57. Webbing tacks: Special tack for fastening webbing. Distinguished by little points which project from the shank.
58. Welting: Cording sewn into fold of upholstery material.

THE ABOVE IS A

STATEMENT OF

Typist: Anne G. Nichols