OPERATION OF SEWING PROJECTS

CIRCULAR OUTLINING THE TECHNIQUES FOR CONDUCTING SEWING, MATTRESS, AND COMFORTER PROJECTS

W. P. A. TECHNICAL SERIES
WELFARE CIRCULAR No. 4

SEWING, MATTRESS, AND COMFORTER CIRCULAR No. 1.

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FEDERAL WORKS AGENCY
WORK PROJECTS ADMINISTRATION
DIVISION OF COMMUNITY SERVICE PROGRAMS
WASHINGTON, D. C.

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Sewing, Mattress, and
Comforter Circular No. 1
Foreword

FOREWORD

This circular provides a suggested operating technique for Sewing Projects. The procedure presented herein is not mandatory. Local conditions and special requirements may necessitate some changes. It is believed, however, that this procedure is adequate to accomplish the desired objective of such projects.

This procedure relates only to the technique of project operation. Nothing in this circular is to be construed as affecting or modifying in any way administrative Regulations or procedures of the Work Projects Administration.

Howard O. Hunter
Commissioner of
Work Projects

(December 29, 1941)

PREFACE

Sewing projects were originally developed as a means of providing mass employment for a large group of relatively unskilled persons. These projects met two urgent needs which were common to most communities. The projects readily provided employment on useful public work for the large numbers of women who were the economic heads of families. Secondly, public welfare agencies and other officials require clothing for distribution to needy families. The demand for these two services resulted in a sewing program which operated not only in urban and metropolitan areas, but in remote rural communities as well.

Sewing projects were initiated as early as 1932 and were financed from funds of the Reconstruction Finance Corporation. Under the Civil Works Administration and the Federal Emergency Relief Administration in 1933 and 1934, the sewing program was greatly expanded. By February 1936 the Works Progress Administration employed 302,078 persons in 9,000 sewing rooms.

As the work program developed, experience demonstrated that the unskilled women at first assigned to sewing could be employed on other types of projects. The transfer of employees from the sewing projects to other work for which they were better fitted and the introduction of new methods and techniques have resulted in a steady decline in the number of employees on sewing projects. There have been many problems in effecting a change from the early projects which were primarily interested in employment, to the production units which are the present-day standard sewing projects. Sewing projects provide employment for those needy persons who are better suited to the production of clothing. The production of clothing for distribution to

the needy must be managed so as to meet the need of sponsors for clothing and to produce it at a reasonable cost.

State-wide projects operating with central services and pattern making, cutting, and specialized fabrication are the accepted methods of meeting these objectives. The methods and techniques elaborated in this manual have been developed in an effort to establish standards which will assist in the operation of the sewing program and which will increase the value of the sewing projects to the communities served.

(December 29, 1941)

TABLE OF CONTENTS

PART I. PRELIMINARY PLANNING FOR SEWING PROJECTS

Section 1. Conditions of Operation In planning for the operation of a sewing project, it is necessary to consider the types of activities permissible under WPA regulations, the extent of the need not met by existing relief agencies in the community, the availability of qualified labor, the potential sponsorship, the interest of the community in promoting the work, and the ability of local sponsors and co-sponsors to provide financial assistance.

Sewing projects shall be operated on a State-wide basis in accordance with the plan of operation outlined in Operating Procedure No. G-5, section 5.

WPA personnel may be assigned to projects to produce clothing and household articles for free distribution to needy persons and to public institutions, subject to the provisions set forth in Operating Procedure No. G-1, section 87, and Operating Procedure No. G-5, Sections 5 and 6.

Section 2. Sponsorship. Sewing projects may be sponsored by the State public welfare agencies or other public agencies legally authorized to prosecute such work according to regulations set forth in Operating Procedure No. G-1, sections 6 and 7. In most instances, however, the official sponsor will need and require assistance from local co-sponsors in the operation and development of the sewing program.

Since Federal funds are usually provided for supervision and labor and a portion of the nonlabor costs, sponsors and co-sponsors ordinarily assume the financial responsibility for space, heat, utilities, maintenance supplies, findings, equipment, and a major portion of textiles, as outlined in Operating Procedure No. G-5, section 5. Funds may be provided as sponsors' contribution through the cooperation of nonprofit private agencies, such as Parent Teacher Associations, civic organizations, welfare agencies, and interested individual

Section 3. Advisory Committees. Community participation and assistance should be encouraged and may be secured through the establishment and use of advisory committees comprised of representative citizens. The selection of persons for a community committee calls for considerable ground work which can be done by the WPA State and local supervisors and the sponsor. Committee appointments should be made on the basis of indicated interest, capacity for leadership, influence, and willingness to serve on the part of the person considered.

The committee should meet at regular intervals in order to carry out the work effectively. A working, interested committee signifies that people of the community are taking an active part in solving their community's problems. In order to render the maximum service, a WPA sewing project, although state-wide in scope should be properly integrated into the local community organization. To this end, it is suggested that personnel for sewing project advisory committees be selected from the following:

Public Welfare Agencies
Social service and welfare agencies
Chambers of commerce
Manufacturers
Community leaders
Labor organizations

The major responsibilities of an advisory committee should be to assist in broadening the scope of the sewing program and interpreting the aims and achievements of the entire program to the communities. The technical advice of professional members of an advisory committee should be welcomed.

Section 4. Integration with Other Agencies. In the development and operation of WPA sewing projects, close coordination is necessary between the local distributing agencies for surplus cotton and cotton goods and the sponsor of the sewing program. Regulations governing the allocation of surplus cotton and cotton goods, the amounts allocated to sponsors, and methods of distribution are determined by the Surplus Marketing Administration and the State Public Welfare Agencies.

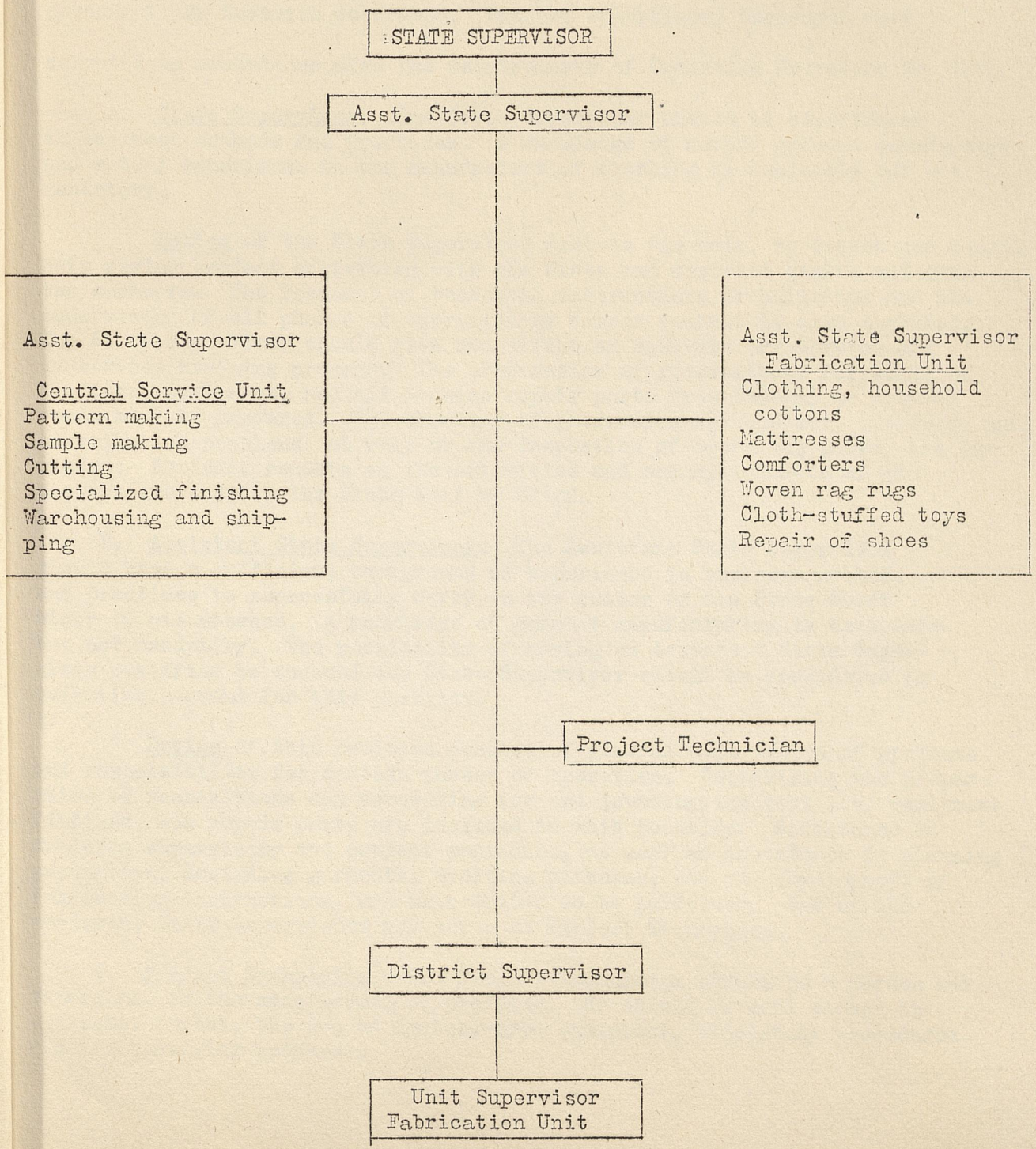
The responsibility of project supervisory personnel for distribution of completed articles ends with final accountability for materials processed into garments. Matters affecting distribution on a higher level, such as the accumulation of large stocks of garments in warehouses, and policies of distribution of the sponsoring agency, should be handled by the State Director of Community Service Programs.

PART II. ORGANIZATION OF A STATE-WIDE SEWING PROJECT

Section 5. Plan of Organization - The accepted plan for the organization and operation of sewing projects is on a State-wide basis. This plan provides for specialized supervision and the development of uniform methods of operation. It also provides centralized control which permits flexibility in administration and economy in supervisory cost, as well as centralized State-wide and district-wide service units.

Organization Chart

The following chart illustrates the organization and functions of a typical State-wide sewing project:



(December 29, 1941)

PART III. PERSONNEL

Section 6. State Personnel. With reference to the foregoing organization chart, the duties and qualifications of State, district, and project personnel are herewith described. Project supervisory personnel must be selected in accordance with the requirements of Operating Procedure No. E-9.

A. State Supervisor. The State Supervisor should be experienced in business methods and practices. A knowledge of modern garment manufacture and actual experience in the manufacture of clothing is desirable but not mandatory.

Duties of the State Supervisor are, in the main, to direct and coordinate sewing project activities with the State and district staffs and with the sponsors. The issuance of technical instructions or bulletins and the supervision of all phases of operation by direct contact is also included. The State Supervisor should plan and direct an adequate pre-service and in-service training program. The preparation of requisitions for textiles, findings, equipment, and all machine repair parts from Federal or sponsor funds must be mastered. The checking of production for quality, quantity, and distribution problems, as well as the inspection of operating units, are included. Periodic reports on the activities and accomplishments of the program are made to the State Welfare Chief.

B. Assistant State Supervisor. The Assistant State Supervisor should have a sufficient background of experience in business methods and practices to successfully carry on the duties of the State Supervisor in his absence. A knowledge of garment manufacturing is desirable but not mandatory. The possibility of having an Assistant State Supervisor qualified to succeed the State Supervisor should be considered in selecting persons for this position.

Duties of this position consist of general supervision of projects and responsibility for certain phases of operation. Supervising the preparation of requisitions and accounting for and inventorying textiles, equipment, findings, and repair parts are included in this position. Assistance in training supervisory and project personnel, as well as assistance in planning production, designing garments, drafting patterns, and the development of fabrication instructions, are also duties to be performed. One of the assistant State supervisors may serve as Project Technician.

C. Project Technician. The Project Technician should be a person with experience in the manufacture of clothing. He should be well versed in equipment layout, the use of factory-type equipment, time study procedures, and manufacturing processes.

Section 7. District Personnel.

A. District Supervisor. The District Supervisor should be familiar with modern garment manufacture practices and have sufficient technical knowledge and experience to supervise all phases of project operation.

Duties of this position include the supervision of all units within the district. The responsibility for fabrication production, shipping and reports, the maintenance of established production standards and conducting the prescribed training program are also included. It will be one of his duties to make and maintain the necessary local contacts with sponsors and others in the community.

Section 8. Project Personnel (Fabrication Units). In the selection of persons to supervise units, it is of utmost importance that assignments be made only on the basis of qualifications to organize and supervise the work or phase of work of the particular project or project unit. The degree of efficiency in project operation is strongly reflected by the quality of supervision given. Here again, it is most important that provisions as set forth in Operating Procedures Nos. G-5 and E-9 be observed.

A. Unit Supervisor. The Unit Supervisor must have technical knowledge of fundamental processes of sewing and garment construction. He must be able to efficiently plan, organize, and direct project or unit operation.

Duties of this position cover general supervision of all phases of project operation. The Unit Supervisor is charged with carrying out on the unit instructions from superiors. It is his responsibility to plan and organize work to insure smooth and efficient functioning and the maintenance of high standards of quality and quantity production on the unit. Inspection of all operations (by the "spot check" method) is included. He shall be responsible for the complete and accurate preparation of records, reports, and timekeeping. He shall also be responsible for project property and its use, good housekeeping on the project, safe and healthful working conditions, adequate first-aid service, proper personnel relations, and adjustment of the worker to the job. It shall be one of his duties to coordinate all phases of operating to effect unity of purpose. A major reponsibility of this position is the planning and organization of training of project personnel as prescribed by the state and district sewing supervisors.

B. Assistant Unit Supervisor. Qualifications indicated for Unit Supervisor may be applied. Duties may involve general supervision under direction, or responsibility for certain phases of operation.

C. Foreman. The Foreman should be able to fabricate all types of garments made on the unit in accordance with established procedure.

Duties include the operation, under supervision, of one or more production lines consisting of 20-25 seamstresses. It will be the responsibility of the Foreman to plan work details and to instruct operators in sewing techniques under prescribed construction methods. The Foreman will set up groups or lines for fabrication in accordance with prescribed work units of individual lots. The Foreman will also be responsible for maintenance of satisfactory production standards, checking of work in process to avoid errors in construction, and the keeping of daily production records.

D. Garment Inspector. The Garment Inspector must have basic knowledge of construction and fabrication of all types of garments made on the unit, and the ability to judge quality of workmanship.

Duties include examination of finished garments for fabrication, construction, and size in accordance with Inspection Charts for each type of garment. The Garment Inspector will approve and reject articles on the basis of workmanship, and will report to the Foreman on garments that are below standard but do not warrant repair, as well as those requiring correction. Records will be kept by this employee, for the supervisor, of errors of each "group" or "line", which will serve as an indication of the need for further training in specific operations.

E. Other Personnel. Qualifications and duties of other personnel, such as registered nurse, timekeeper, stock clerk, clerk, seamstress, sewing-machine repairman, garment presser, janitor, packer, nonconstruction helper, and charwoman, are outlined in Operating Procedure No. E-9 and should be observed in the selection, training, and supervision of these employees.

Section 9. Health and Personal Hygiene Project personnel should possess physical and mental fitness to perform the jobs to which they are assigned. The procedure for the dismissal of workers physically unsuited for employment on sewing projects as outlined in Operating Procedure No. E-9 should be observed.

Any person who is known to have a communicable or contagious disease should not be permitted to work on sewing project.

For the workers' protection, all used woolen goods on renovation units must be sterilized before being brought into the sewing room.

The project personnel should include some person qualified to render first aid. Registered or graduate nurses should be employed on projects employing 100 or more persons in accordance with the provisions of section 5 of Operating Procedure No. G-5. All accidents shall be reported according to the instructions provided on pages 2.5.046 - 2.5.049 of the Manual of Rules and Regulations.

A. Personal Hygiene The supervisor should inform the employees that they should be appropriately dressed for their job. Cleanliness of person and clothing is essential. Good grooming should be emphasized because a well-groomed appearance increases the workers' self-confidence and helps them to develop a professional attitude toward their work.

Simple clothing and low-heeled shoes are required for their safety value as well as for their appearance. Ornaments or accessories which may detract from the efficiency of the employee should not be worn. The excessive use of cosmetics should be discouraged in order to prevent the soiling of garments.

Section 10. Uniforms are preferred costumes for employees and should not be worn over outer dress. These uniforms may be made on the sewing project from Federal or sponsors' materials. As the nature of the work does not necessitate a fresh uniform daily, three should be adequate to allow for laundering. Smocks are not regarded as uniforms.

Since laundry work may not be undertaken on the sewing project, the laundering of uniforms shall be the responsibility of each employee. (see Operating Procedure No. G-5, section 5).

Section 11. Lunch Room and Sanitary Facilities Whenever possible, space should be allocated for lunch-rooms so that employees may eat their lunches away from their work. Sponsors should provide tables covered with linoleum or oilcloth, or the surface may be finished in a manner that is sanitary and easily cleaned. Seating arrangements should also be provided.

Well-ventilated cabinets or shelves away from the sewing machines or work areas should be provided for the storage of employees' lunches.

Where space for a separate lunchroom is not available, some other arrangement should be made. One suggestion for meeting this situation is the use of drop-leaf shelves fastened to the walls which may easily be dropped when not in use.

Drinking water shall be provided in accordance with paragraph C, section 1, WPA Safety Bulletin No. 1.

A special space or lockers should be provided for workers' wraps. No articles belonging to the employee should be kept on the top of machines, in working spaces, or on the floor around the equipment.

Proper and adequate toilet and lavatory facilities must be provided in accordance with regulations as outlined in WPA Safety Bulletin No. 13. Those facilities should be easily accessible on the project location, well-ventilated, and lighted. Toilet facilities, sinks, and wash bowls should be kept clean and sanitary; inspection should be made daily. A supply of disinfectant, soap, toilet paper, and paper towels should be on hand.

Part V. Physical Set-up of Sewing Units

Section 12. Space Requirements. The space provided for any sewing project shall conform to recognized standards of safety and health provisions, as stated in Operating Procedure No. G-5, section 5. There shall not be less than 400 cubic feet of air per person and ventilation shall allow for free movement of air without drafts. During rest periods, rooms shall have a complete change of air. Heating shall be sufficient to maintain a uniform room temperature of 70 to 72 degrees. A thermometer shall be provided.

Adequate natural or artificial light shall be provided during working hours. The sources of illumination shall be of such a nature and so placed as to provide a reasonably constant and uniform light over the area of work and avoid the casting of objectionable glares or shadows. Light shall not fall directly on the eyes of employees while engaged in work.

In order that planned production may be carried to a maximum of efficiency in the operation of a unit, space must be adequate to meet requirements. Work phases should be so arranged in relation to one another as to insure ease of continuity with the least possible loss of motion.

A specific location with necessary facilities should be located in a quiet, well-ventilated place. Provision of space should also be made for the supervisory, timekeeping, clerical, and other specialized staff. Wherever possible, space should be allocated for a lunchroom and locker room for employees' wraps and necessary personal belongings. A separate space where formalized training may be conducted is desirable, and in addition to ordinary equipment requirements should include a blackboard.

(December 29, 1941)

Section 13. Physical Lay-out. In planning the physical lay-out, work units should be considered in the order in which the work progresses. Fabrication begins with storage facilities for cut garments and findings and ends with the finished product.. Other supplies pertinent to the unit, such as machine parts, repair and maintenance supplies, janitorial and sanitary supplies, and small equipment, may be centralized in a separate section of the same stockroom but are not to be considered in the progression of work.

A. Assembled cut goods should be sorted and stored in bins ready for release to production lines. Completed articles properly bundled and tagged may also be stored here for periodic shipment to distributing units. If arrangement of space permits, it is recommended that a separate storage room be provided which allows for convenient transfer to trucks which carry the stock to the distributing units.

B. Production lines should be adjacent to the general storeroom and should be arranged to conform with a group or line plan of production. Single-needle sewing machines, whether foot or power operated, should be placed in long double rows facing each other, with a connecting tray 15" to 18" wide lengthwise between the rows of machines (see figures 1A and 1B). The tray holds the work as one worker finishes her particular operation and passes the garment to the next worker in the group.

C. "Horses" or individual work boxes to hold bundles of parts in process, with a small lower shelf for the operator's purse, may be provided.

D. Multiple-needle or special operation machines such as button-hole, button sewer, bar-tack, serger, etc., may be located at the end of the line. However, it may be found expedient to place certain or all special machines at intervals in the line, apart from the single-needle machines, depending on the order of special operations.

E. The number of machines in a group or line is controlled by the type of garment being processed, local safety regulations, and the physical limitations of the room.

F. Trough lighting has been found to be efficient and economical in construction. The framework may include facilities for holding large cones of thread with thread guides or loops (see figure 2). As an alternative, individual lights of the gooseneck type may be provided for each machine. If only ceiling or drop lights are available, they should be so placed that the light will be adequate, properly diffused, and without glare. Permanent wiring for drop lights is required.

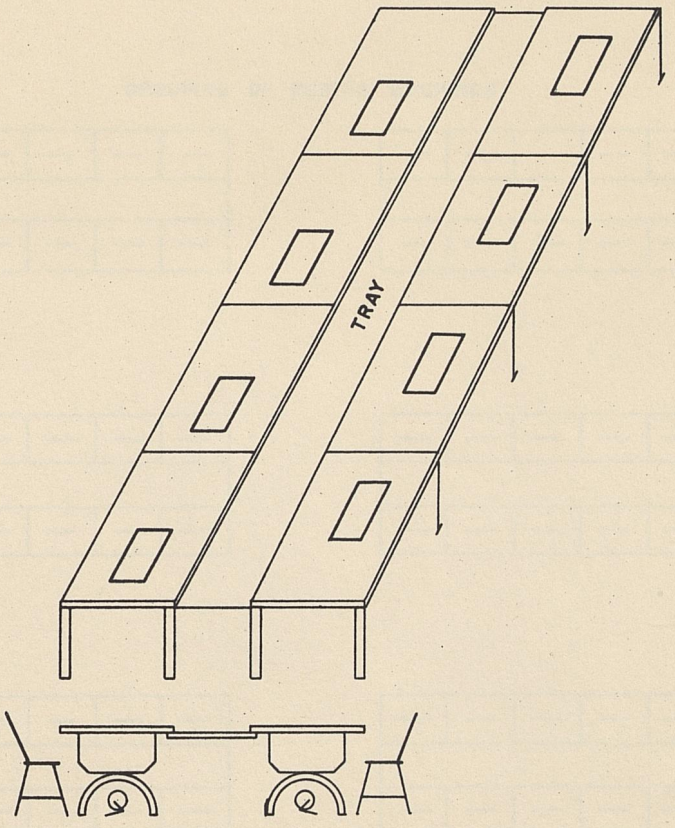
G. Work tables for foremen, finishers, inspectors, folders, and packers should be located conveniently to allow for the smooth flow of work in process.

H. A bulletin board placed conspicuoulsy and readily accessible to the employees is required for posting official bulletins. A second bulletin board may be provided for posting other notices of general interest to the employees. Bulletins should be arranged neatly and should be removed as soon as they become obsolete, or replaced with fresh copies. The Manual of Rules and Regulations, page 2.5.031, lists the notices and regulations which shall be included in the material posted and maintained on project bulletin boards.

P-1315

GROUPING OF MACHINES

Figure 1 a

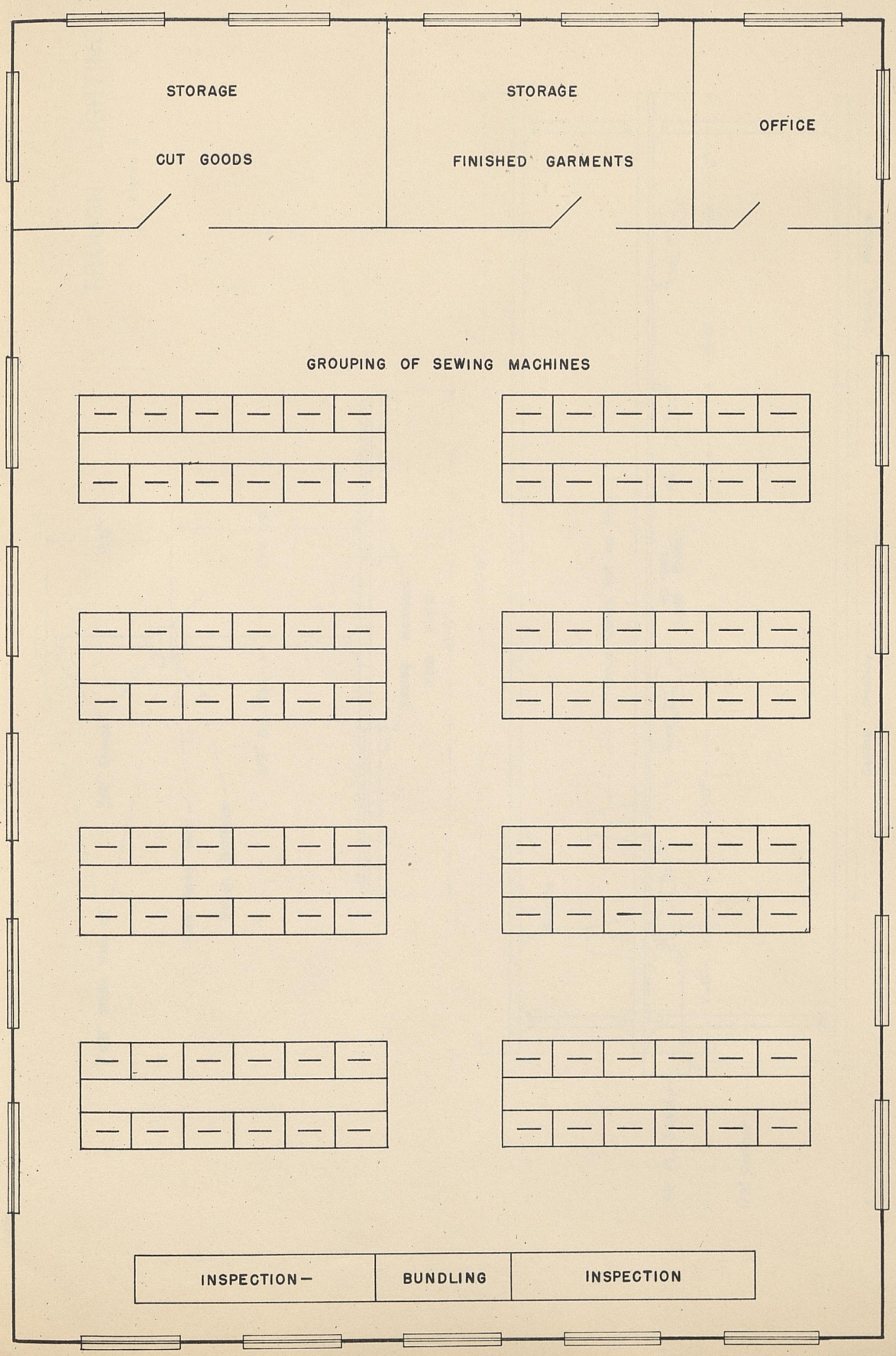


WPA 3949

P-1315

ARRANGEMENT OF LARGE SEWING ROOM

Figure 1b



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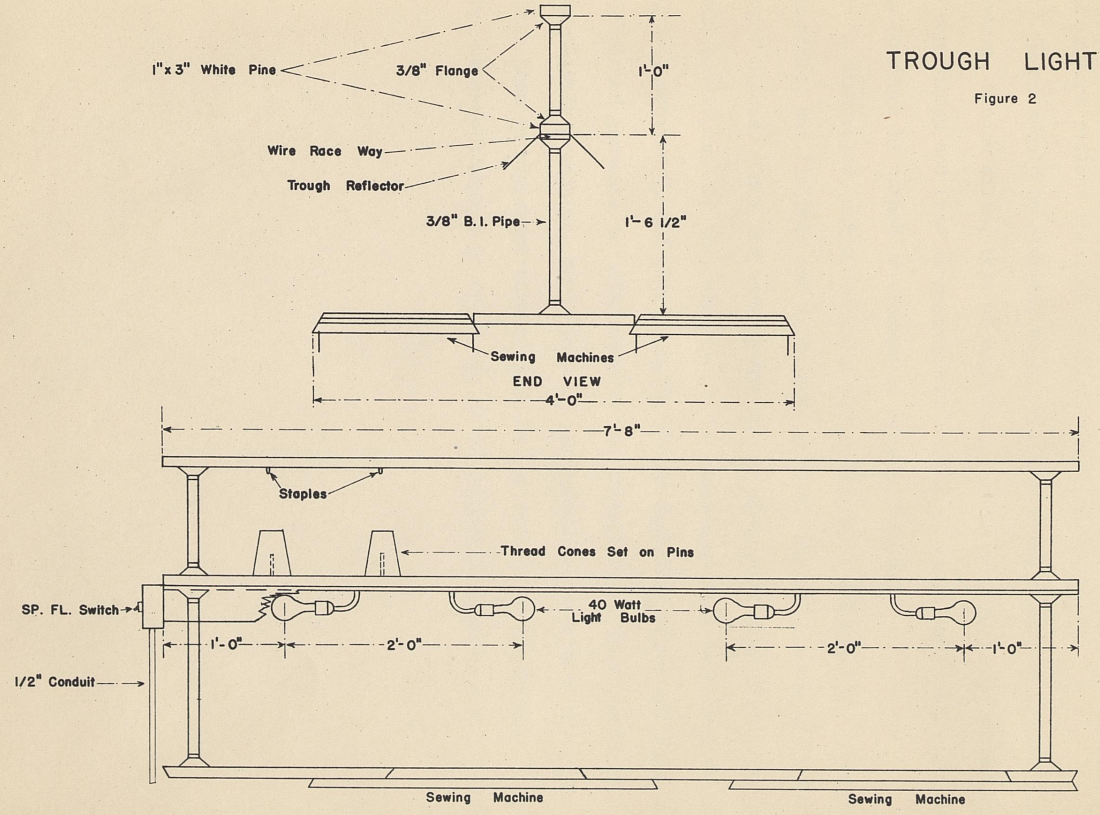
P-1315

TROUGH LIGHTING

Figure 2



Section 14. Housekeeping. The housekeeping and general appearance of the project reflect the type of supervisor and employees.

Rooms should be cleaned, swept, and dusted thoroughly as needed. All corners, window sills, tops of cupboards, sewing machines, and tables should be kept clean and free of accumulated articles. It is important that windows and woodwork be washed or cleaned at regular intervals.

A disheveled, untidy workroom and stockroom is inexcusable. Equipment, materials, and finished and unfinished garments should be kept in their proper places. Odds and ends should not be allowed to accumulate. Scraps shall be disposed of periodically and in accordance with Operating Procedure No. G-5, section 5, and page 2.10.083 of the Manual of Rules and Regulations. If finished garments are displayed on the project site, they should be attractively presented, preferably in one corner or section of the room rather than in haphazard vacant spots in the room or on the walls. Display garments should always be fresh and of the latest design and best workmanship.

Section 15. Safety Regulations. All State and local safety laws shall be complied with, and the regulations set forth in WPA Safety Bulletin 13 shall be observed. Fire and other safety regulations shall be prominently posted. The cooperation of the fire marshal or other local authorities shall be secured in conducting regular fire drills.

All heating arrangements, electrical appliances, and equipment should be installed in accordance with the safety regulations. The State Safety Consultant or his representative should be consulted in relation to the installation of such equipment.

The following suggestions are made for the promotion of safety:

1. All working equipment should be maintained in good workable condition.

2. Cutting tables and other work surfaces should be smooth and free from splinters.

3. Cutting tables should be of the correct height to prevent unnecessary fatigue on the part of the worker (see section 28 of this Circular).

4. Project personnel should be taught the proper use of equipment, to prevent accidents.

5. The use of scissors for machine operators should be restricted.

6. Sharp instruments for turning belts, ties, etc., should be avoided.

7. Needle guards and other machine safeguards are recommended.

8. Chairs must be sturdy with backs that give full support.

PART VI. EQUIPMENT (FABRICATION UNITS)

Section 16. Equipment Modern equipment is necessary for the operation of an efficient WPA sewing project. Listed below are some of the types which may be used.

A. Sewing machines. The General Schedule of Supplies, Sewing Machines and Parts and Supplies (Class 66, Supplement No. 2), issued by the Procurement Division, lists the types of machines judged suitable in their performance for work on WPA sewing projects. However, in order to gain greater service through higher rate of production, lower cost of production, and improved quality of the articles produced, it has been considered desirable to recommend for use on sewing projects only those machines listed under Types VI and VII on the General Schedule. These are power-operated machines. If there are project locations where electric power is not procurable, Type V machines, the medium-heavy-duty foot-operated type convertible to use with power, may be requisitioned. (See Operating Procedure No. G-5, section 5.)

The initial cost of Types V, VI, and VII machines is greater than that of Types I, II, III, and IV. But their ability to sustain long and hard usage, their adaptability to both light- and heavy-weight materials, their reduced cost of maintenance, and their ultimately greater replacement value, make them a far more profitable investment in the course of time.

It is essential, in drawing up requisitions for these sewing machines, to keep in mind that the schedule prices do not include individual machine lights, thread cutters, thread stands, measuring gauges, etc. Such parts are considered accessories and may also be purchased from the schedule.

There are many types of power machines which have proved suitable for use on WPA sewing projects and which have improved the general efficiency of project operation. The following list is comparative by type of machine and manufacturer:

1. Single Needle - lock stitch

Singer	Union Special	Willcox & Gibbs
31-15	61200	10
44-20	61300	11
61-W		
1300		
95		
150-W-104		
111-W (for overalls and heavy work)		
241		
245		

2. Two Needle - lock stitch - compound feed

Singer

112-W-127 (pocket stitch and cut)
112-W-140 (overalls and similar work)

3 Single Needle - chain stitch - 2 & 3 thread - overseaming and edging machines

Merror	Singer	Union Special	Willcox & Gibbs
60 class A-3	81 class	39000	Superlock (800)

4 Two Needle - chain stitch - 4 thread - flatbed - center plait

Singer	Union Special	Willcox & Gibbs (Metropolitan)
152 class	51400	992-26

5 Single Needle - lock stitch - cylinder bed - sleeve setter (jackets and sack coats)

Singer
47-W
153-W

6 Single treadle - lock stitch - flatbed - with trimmer (collars and cuffs)

Singer	Willcox & Gibbs
95-82 96-85	12

7 Blind stitch - hemming, etc. - lock and chain stitch - single needle

American	Columbia	Lewis	United States

8 Two Needle - chain stitch - 4 thread - flatbed (sleeve setting and piecing)

Singer	Union Special	Willcox & Gibbs
147 class	51400	951

9 Two Needle - chain stitch - 4 thread - feed-off-the-arm - felling

Singer	Union Special	Willcox & Gibbs
231 class	35000 class	Feedlock - 700 Dualfeed - 750

10 Two Needle - 3 thread - chain stitch - belt loops for trousers, etc.

Singer	Union Special	Willcox & Gibbs
147-39	52700	950-Z

(December 29, 1941)

11 Single treadle - cylinder bed - lock stitch - bartacker

Singer

68 - flatbed
69-8

12 Buttonhole machines

Reece	Singer
Straight holes - light weight fabrics	71 class - straight holes - light weight fabrics
Straight & eyelet (medium & heavy weight fabric)	99-W class - straight and eyelet (medium & heavy weight fabric)

13 Button sewing machines

Singer	Rich
69 class, 114 class, 175 class (cylinder) 68 class, flatbed	(no number specified)

All of these, with the exception of the Singer 31-15, Singer 61-W-156, and Singer 150-W-104 models which are on the General Schedule, require the issuing of special invitations to vendors to submit bids.

In considering the needs of a sewing project in respect to the ratio of special operation machines to single-needle power machines, the following chart may serve as a guide:

Type of Unit	No. of single-needle power machines	Type of special machine required	Quantity of special machines required
Shirts & similar garments	25	2-needle sleeve setter	1
		Feed-off-the-arm	1
Shirts & similar garmnets	50	2-needle sleeve setter	1-2
		Feed-off-the-arm	1-2
		Buttonhole	1
		Button sewing	1
Shirts & similar garments	100-200	2-needle sleeve setter	2-3
		Feed-off-the-arm	
		Buttonhole	2
		Button sewing	2
Overalls, pants, etc.	50	Serger	1
		Pocket setter	1
		Feed-off-the-arm	1
		Bartacker	1
		Buttonhole	1

Type of Unit	No. of single-needle power machines	Type of special machine required	Quantity of special machines required
		Button sewing	1
		Belt loop	1
Overalls, pants, etc.	100-200	(Double the number of special machines given above)	
Dresses	50 or more	Blind stitch hemmer	

It should be borne in mind that in the normal operation of service units in fabricating children's (girls) and women's garments, only single-needle machines are used, so that the emphasis has been placed on special machines for the fabrication of men's and boys' garments. In the ratio of special to single-needle machines, consideration must be given to the number of hand workers on the unit, therefore the ratios suggested may be out of line in some instances.

B. Tables for General Use. Tables for sorting, assembling, or packing may in general be constructed similar to those recommended for a cutting room; a good length being 12 feet.

C. Inspection Tables. An inspection table, similarly constructed, should be approximately 6 to 12 feet long, and 4½ to 6 feet wide, depending on the amount of space allotted to the inspection division and the number of inspectors employed. A yardstick should be painted along all four edges of the table, to facilitate checking of sizes of seams, spacing of button-holes, etc.

D. Inspector's Racks. Two low racks, of the sawhorse type, will be convenient for the inspectors to use in putting aside garments they have rejected and which must be returned for correction.

E. Tables for Hand Finishers. A table, with spool racks built above and across the center, under which framework a narrow partitioned space is provided to hold vendor's boxes of buttons, snaps, etc. (see figure 3).

F. Work Racks and Benches for Machine Operators. Machine operators need a receptacle to hold personal effects, other than wraps, and their new and finished work. Various types have been used for this purpose, but the one that has met with greatest favor on many projects is a combination rack and bench (see figure 4). It is practical in use, simple and inexpensive to construct.

G. Chairs. Chairs should be sturdy, straight-backed, and have ample seat space--approximately 16 inches wide and 18 inches deep.

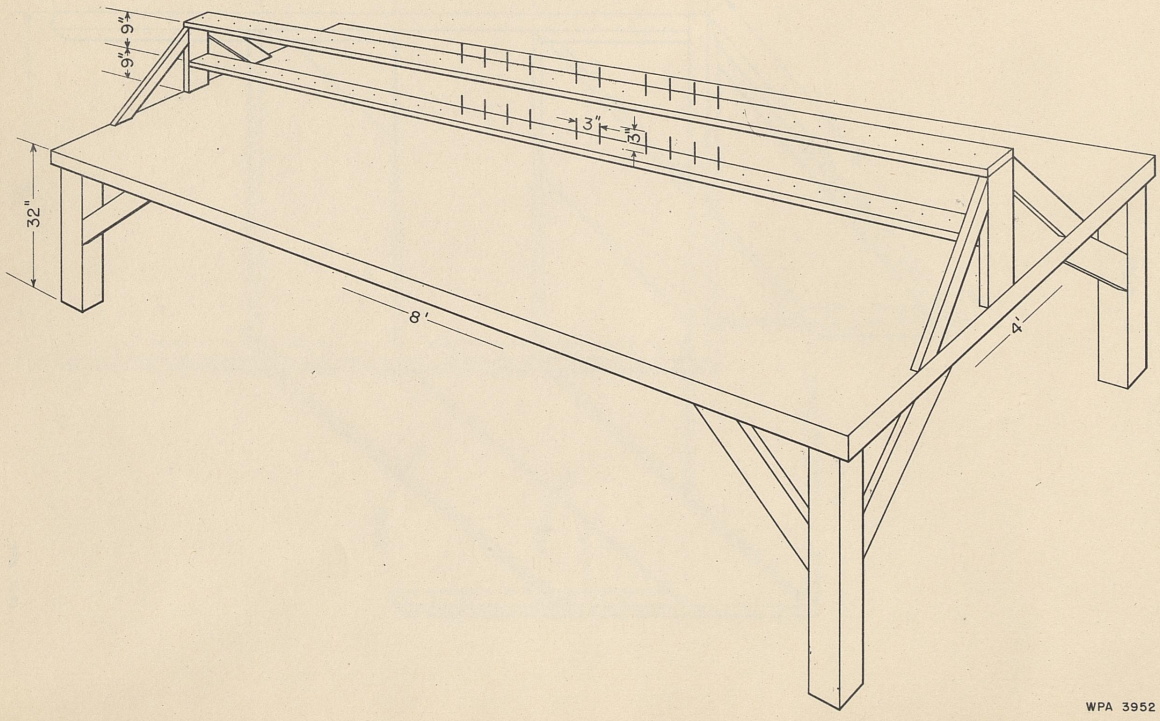
H. Coat Racks. A special space, fitted with coat and hat racks for the employees' wraps should be provided.

Many of the items of equipment for sewing rooms, such as tables, shelves, bins, and work racks, may be constructed on the project or may be built at a warehouse under the Supply Fund Account as stated on page 2.10.019 of the Manual of Rules and Regulations.

P-1315

TABLE FOR HAND SEWERS WITH RACK FOR SPOOLS

Figure 3



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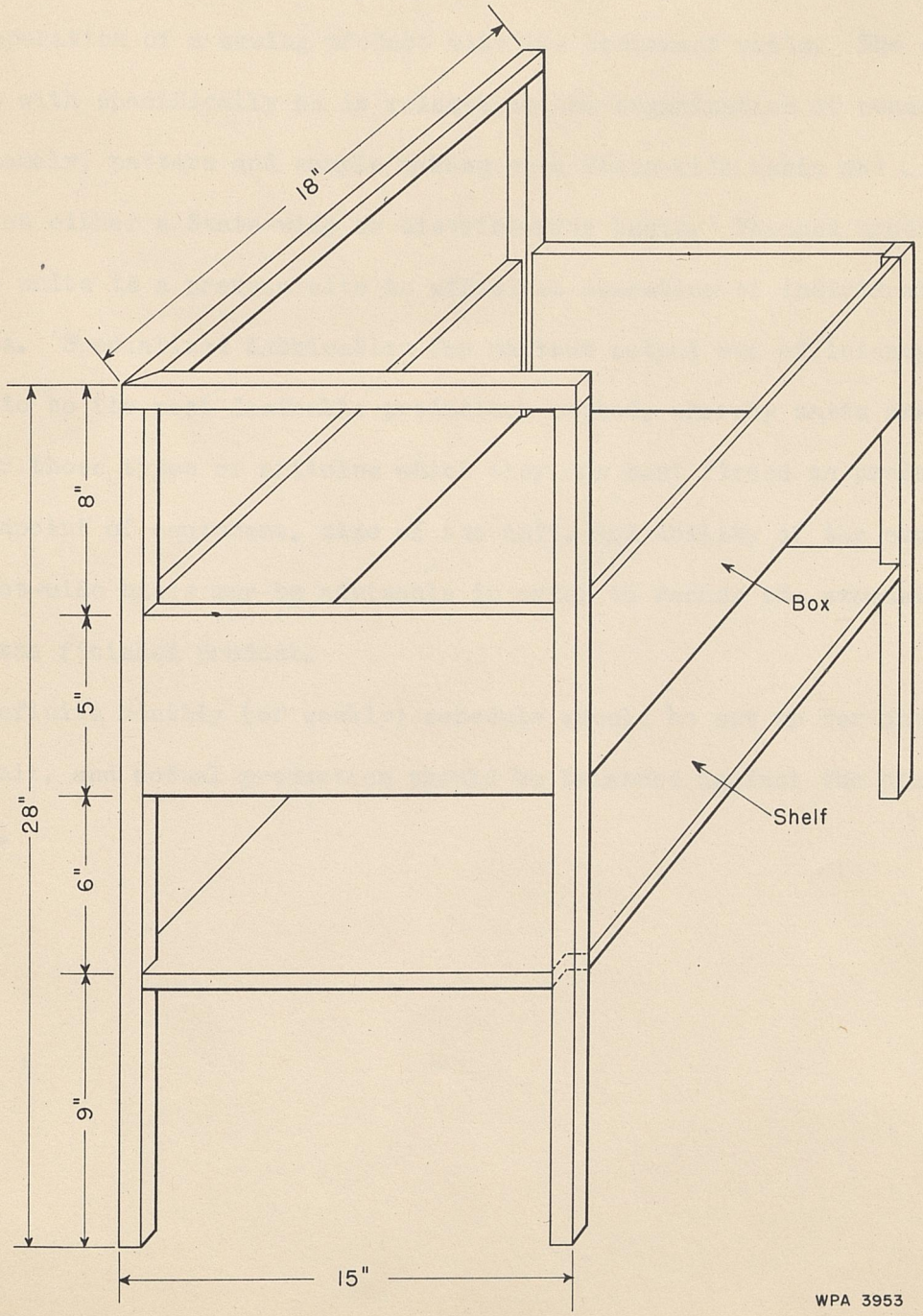
P-1315

COMBINATION WORK BOXES FOR SEWING MACHINE OPERATORS

Figure 4



WPA 3953

PART VII. PLAN OF WORK AND ORGANIZATION

Section 17. Production. Planned production, based on requisitions from sponsors for garments and household cottons, is the first consideration in the operation of a sewing project with its component units. The subject is dealt with specifically as it relates to the organization of central services; namely, pattern and sample making on a State-wide basis and cutting service on either a State-wide or district-wide basis. Planned production on these units is a prerequisite to efficient operation of individual sewing units. Specialized fabrication for maximum output and efficiency is considered to be the most desirable production method, whereby units are designated for those types of articles which they are best fitted to produce from the standpoint of equipment, size of the unit, and ability of the employees. A district-wide basis may be advisable in order to reduce the excessive handling of the finished product.

A definite monthly (or weekly) schedule should be set up for each fabrication unit, and actual production should be balanced against the planned schedule.

Section 18. Basic Requirements. The following basic requirements of each sewing unit as stated in Operating Procedure No. G-5, section 5, shall be observed.

1. A minimum fabrication rate of 1 yard per employee hour.

2. Ninety percent of the total personnel on the unit shall be engaged in direct production, only 10 percent shall be supervisory and clerical.

3. A minimum of 75 approved-type machines per 100 project employees.

4. A minimum ratio of 75 percent machine hours to total hours.

Additional requirements to be met in the operation of sewing units are as follows:

1. Specialized fabrication shall be used wherever possible.

2. Special machines shall be provided as required for efficient production standards.

3. All garments and household articles produced from Federal and sponsor materials shall carry a label "WPA - Not to be Sold."

4. Pressing shall be done only at the specific request of the sponsor.

5. A rest period of 5 to 10 minutes each at midmorning and at midafternoon shall be scheduled, and employees shall be compensated for the time.

(December 29, 1941)

Section 19. Group and Line Plans. The "group" or "line" plan of sewing-machine operation shall be established in accordance with Operating Procedure No. G-5, section 5, in every sewing unit regardless of the number of workers or the type of machines employed. Under either method the fabrication of the garment is broken down into individual operations; combinations of these operations are then worked out from time studies furnished by the central pattern unit to balance the flow of work with a minimum number of employees in the group or line.

Either plan simplifies the training of the employee to acquire skill in the making of a specific part (or parts) of a garment instead of the entire garment. It facilitates inspection, since the various operations can be inspected in process. Errors can be detected and corrections made before the garment is completed. Better supervision is effected since the plan allows for the designation of a group captain who shares in the supervision of her teammates. It provides special experience to the group captain that may increase her value as a potential foreman. It results in higher quality of workmanship and increased rate of production.

Before a new pattern, not previously fabricated on the unit, is put into production, a test garment, perfect in workmanship, should be made by the foreman of a "group" or "line" to serve as a model for production.

A. Group Plan. This plan provides for a "team" group of 4 or more single-needle machine operators who combine their operations in constructing a garment. The operations are broken down so that each one of the operators has two kinds of operations to perform: (1) the making of an individual part such as a collar, a pocket, a belt, cuffs, or sleeves (this is called the "feeder" job); (2) the sewing or assembling of 2 or more component parts (this is called a "combination" job). Special operations are performed outside the group.

B. Line Plan. This plan provides for 4 or more operators, and differs from the group plan in that special machines are in the line with single-needle machines, and the garment is completed when it leaves the line. The line permits a more careful and minute breakdown of operations.

Section 20. Bundling Cut Garments. Cut garments are sorted in bundles of 12. For example, a bundle may contain 12 pairs of men's trousers assembled in lots of 24 front parts of legs, 24 back parts of legs, 12 waistbands, 12 waistband linings, 12 buttonhole flies, etc., all of one size. These are tied together securely in one bundle with a bundle tag attached. The foreman checks each bundle for contents, as indicated on the tag, and gives it to the group captain who distributes the component parts to the workers in her group according to the fabrication instructions issued for that particular garment.

At no time should the group or line have more than 2 bundles in its possession--one in process, and the other on hand at completion of the first. Where line operation is in effect, the foreman, after checking each bundle for contents, places it accessible to the first operator in the line. It is important that the bundle tag remain with the bundle through completion of the garments. It then accompanies the bundle of garments as it is released by the foreman to the finishing unit.

Section 21. Work Orders. A "work order" should be executed for every individual job lot to be put into production, and when issued by the supervisor or production manager represents the authority for processing the items involved. The form should be issued in duplicate, one copy remaining with the supervisor and the other given to the foreman.

This work order should be released to the foremen in plenty of time before the "date due" for completion of garments in the lot, to allow for advance planning. It will serve as an order for requisitioning bundles of cut garments and findings from the stockroom, and remains with the production foreman until the entire lot is completed and sent to the finished stockroom. The work order is then signed and returned to the supervisor where the date of completion of the lot is recorded on the supervisor's record of production.

This procedure obviates the necessity of constant checking as to the progress of various lots in process. The supervisor can refer to his production record and know at all times whether the production schedule is being maintained, or whether any unexpected delay in processing has been encountered. A daily review of due and finished dates on the work orders will keep him fully informed of project conditions. Completion dates should not be allowed to become delinquent without immediate investigation and corrective action to overcome any difficulty responsible for the delay. Unless very close control is exercised, production schedules will become meaningless and ineffective.

WORK ORDER

Job Lot No. 318 Date: 3/1/40 Date Due: 4/5/40

Style No. 2011 Bundles: 14 Cut Lot No. 425

Type of Garment: Men's work shirt

Material: Chambray

Sizes	14	14½	15	15½			
Quantity	36	48	48	36			168

Date Received 3/26

Date Completed 4/2

Foreman

Instructions:

Section 22. Production Records. The foreman should keep a record of daily production of the group or line of machine operators under his immediate supervision. This should be designed to allow for his name and the date.

When a bundle is given to the group or line for processing, the foreman should record the group or line number, the cut lot number, the bundle number, and the quantity and item (such as skirt, gown, overall, etc.) At the end of the day he will enter the total number of garments completed by the Group or line, using bundles of 12 garments as a unit. Unfinished bundles will be credited on the report of the next work day they are completed.

Each employee in a group or line is given credit for a proportionate share of the group production depending on the number of employees. A number, identifying the group or line making a bundle of garments, is recorded on the back of the size ticket which is sewed into the garment during fabrication. In the final inspection process, this number will identify the group or line that made the garments.

Section 23. Inspection. The following suggested guide for inspection of finished garments may be helpful:

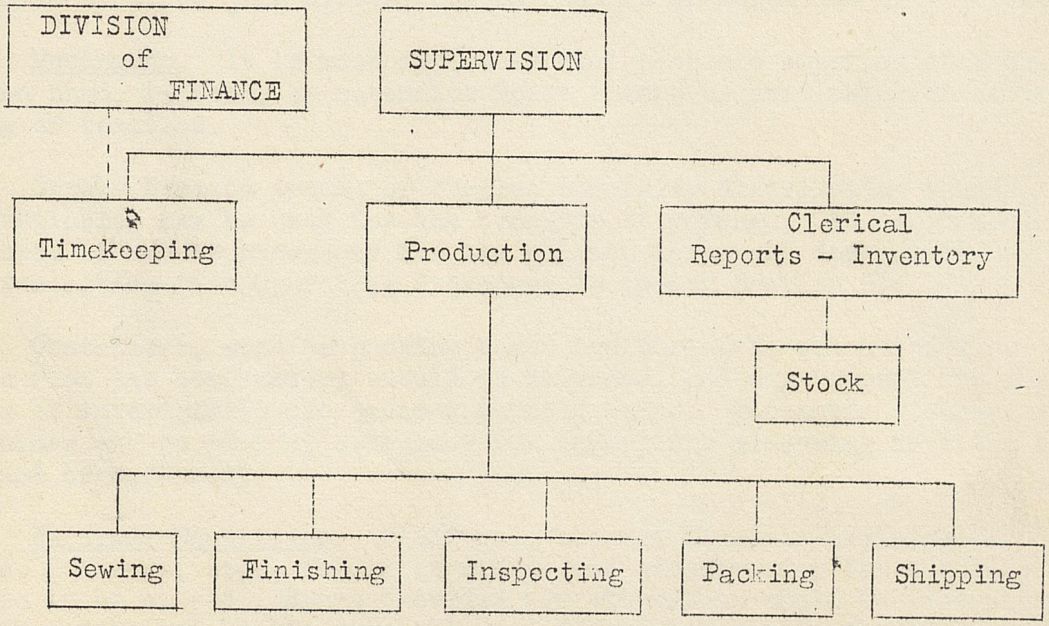
1. Type of construction in accordance with fabrication instructions.
2. Quality of workmanship based on sample garment.
3. Size of garment as specified on charts of standard measurements.
4. General condition of garments.

Rejected garments should not be returned to the group or line that made the errors, but the foreman should be notified and the garment released to a special group where all errors are corrected. A record of rejected garments should be kept which would indicate the particular individual, group, or line which may need further training or instruction.

Section 24. Inventory Control. The clerk in charge of the cut stock should have an efficient method for controlling inventory. It is suggested that the form used for this purpose should show amounts received, on hand, and released to foreman on presentation of work orders.

In releasing cut-stock bundles to foremen, the clerk should record the "cut lot" number, the total number of bundles of that lot received from the cutting unit, the individual bundle numbers of bundles released to the foremen, the date of release, and should secure the foreman's signature. The number of bundles released should correspond to the number indicated on the work order. This record should be retained in the cut-stock storeroom to serve as a permanent record.

Section 25. Supervisory Control. The following functional chart for a fabrication unit illustrates the supervisor's responsibility and control of all activities in the unit.



PART VIII. CENTRAL SERVICES

Section 26. Raw Material Stockroom. Stockrooms should be located in, or as near as possible to, the central cutting unit. It may be desirable in some States for storage of raw materials to be under the Supply Section. The facilities should be adequate to store and supply all raw materials on a State-wide or district-wide basis, and should be under the supervision of a person experienced in warehousing, warehouse traffic, and in maintaining inventories.

A. Personnel. The Personnel should consist of a Chief Clerk and the necessary number of clerks and laborers consistent with the size and responsibilities of the stock room.

B. Plan of work. It is required that perpetual and accurate inventories be maintained. Physical inventories for raw materials should be taken upon designated dates. (See pages 4.3.013 of the Manual of Rules and Regulations.) Distribution of raw materials to the central cutting units should be scheduled sufficiently in advance to avoid the least possible delay in the function of that unit in meeting its cutting schedule. Raw materials should be issued only upon request on a PROPERTY TRANSFER ORDER AND RECEIPT, WPA Form 740A. (See page 2.10.061 of the Manual of Rules and Regulations.)

C. Equipment. It is most important that adequate supplies of packing cases and hand, flatbed, or automatic hoist trucks be available for efficient handling of textiles.

Supply Section trucks or surplus commodity distribution trucks, where available, may be used for the transfer of yardage. In certain circumstances, it may be necessary for the project to supply its own transportation facilities (See Operating Procedure No. G - 5, Section 5).

Containers, such as packing boxes and burlap in which textiles are received from the contractor, should be salvaged, and may be used for re-shipping of materials to the central cutting units. Automatic cloth-measuring machines can be part of equipment for accurately measuring textiles received and transferred.

D. Physical Facilities. Platforms, storage bins, or shelving for textiles, findings, etc., should be sturdy and adequate for the quantity of materials to be stored. Space provided for stockrooms shall be in conformance with safety and health regulations. Floors and aisles should be kept clean and clear of materials. Aisles should be wide enough to allow for the efficient use of hand trucks.

Section 27. State-wide Pattern Department. The pattern department should be a central service unit of the State-wide project under the supervision of the State sewing supervisor. The functions of this unit are to supply correct designs, draft and grade patterns, and make sample garments from approved patterns for use in the fabrication units. The establishment of such services results in better styled garments and uniformity in size and fabrication.

A. Personnel. To assist in the establishment and operation of a central pattern department, the following key personnel are suggested: Unit Supervisor, Designer, Pattern Maker, and Sample Maker.

1. Unit Supervisor. He should have full technical knowledge of and practical experince in design and pattern blocking and grading and garment construction. He should be qualified to direct and instruct department personnel in all phases of operation within the jurisdiction of his unit.

   Duties of the Unit Supervisor include supervision of department personnel and responsibility for compliance with instructions on principles of design, pattern making, and adherence to standard garment measurements, and construction. He shall also be responsible for the selection of materials and findings for all garments scheduled for production. It is his duty to check all drafted and graded patterns for accuracy before release to sample or cutting units. The Unit Supervisor should prepare fabrication instructions for all new patterns and sample garments.

2. Designer. He should have had sufficient experience as a designer in the garment trade to demonstrate ability to perform the work assigned. The Designer should have a knowledge of color combinations and materials and the ability to create suitable and attractive designs for selected garments using the particular kinds of materials available.

   Duties of the Designer shall be the creation of original designs adaptable to economical cutting and simple fabrication. He shall also make sketches of the designs for the use of pattern makers.

3. Pattern Maker. This function should be performed by a person who has had experience as a pattern maker in the garment trade. He should have full knowledge of standard sizes as to body measurements, cutting techniques, and the basic processes of garment fabrication. He should have had sufficient experience to enable him to interpret from designer's sketches, retaining all essentials of style.

Duties of the Pattern Maker include drafting of patterns from designer's sketches, grading and scaling patterns to size, and the alteration of patterns for variations without the sacrifice of correct lines.

4. Sample Garment Maker. He should have full knowledge of processes of fabrication and construction for all types of garments, and sufficient skill and experience to perform the work assigned. He should also have the ability to make suggestions to the Designer that might aid or speed up fabrication of the garment.

Duties of the Sample Garment Maker shall be the making of complete sample garments which are satisfactory in every detail.

B. Plan of work. Upon release of the requisitions for clothing and the production schedule by the State Supervisor of sewing, a suitable variety of designs should be available, or made ready, from which patterns are to be drafted and graded. It may be desirable to keep available duplicates of patterns for standard garments (such as trousers, shirts, etc.) in each size, in case of loss or mutilation of the patterns in use.

Patterns which have been tested by the Sample Garment Makers and approved by the State supervisor are released to either the central or district cutting units, or they may be held for future use. The Designer, in cooperation with the Pattern Maker and Sample Makers, should plan new designs in advance of need.

C. Equipment. The following equipment should be available:

1. Paper. Patterns are subjected to a great deal of handling, therefore, the life of the pattern will be dependent upon the quality of the paper selected. A good quality of tag board (125 pound) is recommended for standard garments. A 90-pound kraft is best suited to patterns subject to style changes.

2. Racks or Pegs. Patterns should be kept flat and not rolled or folded. A method that has proved satisfactory is to insert a metal eyelet in each piece and to suspend it from a peg or nail by means of a heavy cord. Hooks bent from wire clothes hangers are practical and easy to make. Racks, fitted with nails or pegs, may be specially built for holding patterns.

3. Tables. Sturdy tables of a construction similar to that described for a cutting room, but shorter in length, should be used. Tables 12 to 24 feet long have proven practical. (It may be necessary to provide an additional table for cutting individual garments for the sample garment section.)

4. Sewing Machines. Sewing machines will be needed for making sample garments. The same types of single-needle machines recommended for fabrication units should be used.

5. Cabinets and Shelving. Storage space should be provided for miscellaneous equipment. A closed cabinet, fitted lengthwise with a rod from which garments may be hung to prevent wrinkling, has proved satisfactory for the sample garment section. Additional space should be provided for workers' wraps.

D. Physical Facilities. It may be found advantageous to locate the pattern unit adjacent to the cutting unit.

As in the planning of the cutting room layout, a principal factor is that of adequate lighting. Tables and sewing machines should be so placed that workers derive full benefit from both natural and artificial lighting.

Sewing machines should be set up in accordance with the plan described for operating machines under the group or line method.

If racks are used for patterns, they should be placed out of the way, along walls.

E. Operation. The operation of a central pattern unit should be along the following lines:

1. The designing of a garment that will be simple and attractive in line, require a minimum amount of material, be suitable for fabrication in several types of available textiles, and allow for ease of fabrication in the minimum amount of time. Measurements should be uniform and in accordance with established standards.

2. The drafting and grading of a pattern based on the design.

3. The making of a sample garment to check the pattern.

4. The checking and approving of the pattern drafted.

5. Identification of the pattern by code number.

6. Establishing directions for the step-by-step construction of a garment.

7. Making time study to determine the operations for the group or line plan of fabrication.

8. Initiating uniform directions for inspection and folding of the finished article.

9. Periodic checking and discarding of outmoded patterns.

10. Distributing sketches, patterns, sample garments, and instructions to the fabrication units.

After a design has been made, a pattern is drafted and cut, and a garment made to test the pattern. Errors in the construction of the pattern or of the garment, or too elaborate details that will result in difficulty of operation or loss of time, should be discovered and eliminated before the final patterns are approved.

Instructions emanating from the Pattern Unit should include:

1. Sketch showing the foundation design and possible variations in trim to change the appearance of the garment.

2. Swatches or lists of fabrics suitable for use with the design and suggestions for color combinations in trimmings and findings.

3. An outline of the step-by-step directions for the construction of the garment, including the size of machine needle and thread to be used and the number of stitches to the inch.

4. A listed division of operations for each operator in the group or line plan of fabrication.

5. A check-sheet for points to be examined by the inspector.

6. Directions for folding the garment to a standard size.

7. A sample garment, perfect in workmanship, to serve as a model for the project unit foremen in making the garment. Sample garments should not be kept indefinitely — 2 or 3 months is a sufficient time to keep dresses, suits, or blouses, and they should be released to the sponsor at the expiration of this period.

Section 28. Central Cutting Unit. A central cutting unit supplies cut garments to the fabrication units of a State-wide project, either on a State-wide or district-wide distribution basis. Central cutting, performed by skilled cutters using power cutting machines, results in accuracy and economy in cutting, speed in production, and economy in production cost; off-setting the cost of transportation and saving in record keeping cost.

A. Personnel. The central cutting service personnel may include: Assistant State-wide or District-wide Supervisor, Unit Supervisor, Cutting Foreman, Assembling and Shipping Foreman, Marker Maker, Cutters, Cutters' Helpers, Assemblers, and clerks.

1. Assistant State Supervisor. It is important that the Assistant Supervisor of a State-wide or district-wide cutting unit have managerial ability and be familiar with traffic problems, warehousing, routing, scheduling production, and planning and directing the work of others.

Duties include keeping necessary records, making required reports, ordering material according to planned production, and such other duties as are delegated by the State sewing supervisor.

2. Unit Supervisor (Central Cutting). The person selected to supervise the actual cutting of garments should be one with previous training and experience in garment factory processes, and should have had several years of practical experience in production at a garment factory.

Duties of a Unit Supervisor (Central Cutting) should be to direct the following functions: requisitioning of materials from stock as required by cutting order; making of markers from patterns supplied by Central Pattern Service; sample garment making; laying-in materials for cutting and the actual cutting operation; Assembling and bundling of cut garments in multiples of 12 in accordance with established group and line production plans. The Unit Supervisor (Cutting Unit) should also maintain records as the basis of reports of textiles used and production achieved.

3. Cutting Foreman. The Cutting Foreman must have training and experience in garment-factory cutting processes and ability to handle people in order to secure cooperation and efficiency of department personnel.

Duties of the Cutting Foreman shall include the preparation of detailed cutting orders for each lay, cutting records, and daily progress reports. The Cutting Foreman must also plan, at least one week in advance of actual needs, the cutting of textile requirements.

4. Assembling and Shipping Foreman. The Foreman of assembling and shipping must have full knowledge of garment construction and cutting techniques. This position is so closely allied with actual shipping of cut garments to sewing units that the supervision of both functions might in many instances be the responsibility of one person. The actual shipping of cut garments involves checking bundles with tally, packing hampers according to sewing unit orders, releasing hampers to trucks, and keeping records. The Assembling and Shipping Foreman should be qualified to perform these tasks.

Duties of the Assembling and Shipping Foreman include responsibility for inspecting and checking the cut to see that all cut parts conform to cutting standards, such as accuracy of size, correct placement of notches, punch holes, splicing, etc. This Foreman should supervise the bundling, typing, and tagging of the cut lay, and the assembly of the component garment parts for shipment to sewing units.

5. Marker Maker. The crux of cutting-room efficiency is a perfect marker, where all pattern sections are placed with such precision as to permit no waste of material and at the same time to include a complete range of sizes as required by the production order. The person selected to make a marker should be one with previous training and experience in garment-factory cutting processes and should have knowledge of design and garment construction.

6. Cutters. Cutters employed at a central cutting unit should be persons qualified by training and experience to operate power and other cutting-room equipment in the cutting of multiple lays of cloth, and to perform related work. Persons considered for this work should be able to furnish verifiable evidence of having performed satisfactory work at the trade. Accuracy in detail and a firm steady hand for operating power cutting machines are important factors in the selection of cutters.

7. Cutters' Helpers. Cutters' Helpers may be employed to assist skilled cutters, or during a preliminary training period to perform work related to cutting. Selections for this classification should be made from persons who have had some experience in factory cutting-room processes, or who manifest ability to perform these duties.

8. Assemblers Assemblers should have knowledge of garment construction and fabrication, cutting-room techniques, and specific instructions issued by the Pattern Service for the fabrication of the particular garment being issued.

9. Sample Garment Makers. Normally, sample garment makers will be employed at the central pattern unit, but where this service is not yet established, sample garment makers may be employed at the central cutting unit. Previous experience in dressmaking or factory garment construction is essential, and Sample Makers should be able to complete satisfactorily every detail of garments regardless of the type of sewing machine used. They should be able to work with a minimum of supervision and to make suggestions that will aid in the ease and speed in fabrication of the garment.

10. Clerks. Clerks may be employed in the numbers necessary to properly prepare, compile, and type records and reports, as well as issue accounts for supplies and make up inventories.

B. Physical Facilities. In order to reduce both the time and expense involved in transporting materials, it is advisable to locate a central cutting unit within the central textile warehouse or as close to it as possible. Where this arrangement is not expedient, it is important that central cutting units be located in consideration of transportation accessibility, both for raw materials receipt and storage and for easy routing of out garments to processing units.

Efficiency of operation requires careful planning of the physical arrangement of equipment in the various departments, in order to insure an even flow of work through the steps of operation. Arrangement of equipment is controlled by two factors: the size of quarters and adequate lighting.

1. Size of Quarters. A room that will accommodate 4 or 5 tables 72 to 96 feet long is a desirable size. This will permit marking-in a complete range of sizes on the spread material. It will also allow for the simultaneous performance of 4 different operations; i.e., spreading material on one table, making the marker on the second table, cutting the material already laid-in on the third table, and assembling into bundles the garments previously cut on the fourth table. An extra or fifth table is valuable for spreading cloth of a different type for another cutting, or for making a marker for another type of garment.

In estimating space for a central cutting unit, a guiding factor will be 40 to 50 lineal feet of cutting table for each 100 sewers. These figures are based on an estimated average yardage per garment of 2.56 and upon 45 garments cut per week per lineal foot of cutting table. The garment average of 2.56 allows for lining certain types of garments.

In addition to adequate space for tables as described, provision must be made for sufficient storage facilities for textiles and for cut materials. Storage or cabinet space should also be provided for small cutting-room equipment when not in use. Space or lockers should also be provided for workers' wraps and personal belongings.

2. Adequate Lighting. Since the operations performed in a cutting unit necessitate close attention to detail and accuracy, facilities for both natural and artificial lighting must be carefully planned. Natural daylight coming in from all four sides of the room is best. Artificial lighting should be of the indirect type. Both day and artificial light must be sufficient, continuous, and properly diffused without shadows or glare. Sufficient electric outlets must be provided to accommodate the power cutting equipment. (Figure 5 illustrates the suggested physical arrangement of a cutting unit.)

C. Equipment. The following information is given for guidance in the selection of the proper type of equipment for the various operations involved in cutting:

1. Power Cloth Cutting Machines. The first major process in the production of garments is cutting the cloth. If this work is performed without waste of time or goods, the initial step towards increased rate and lowered cost of production has been accomplished. It is for this reason that the method of cutting cloth by hand has been deemed inefficient, and in its place has come cutting by power-driven machinery. Therefore, electric power cutting machines are to be used in central cutting units servicing sewing projects, whether treadle or power-operated sewing machines are used.

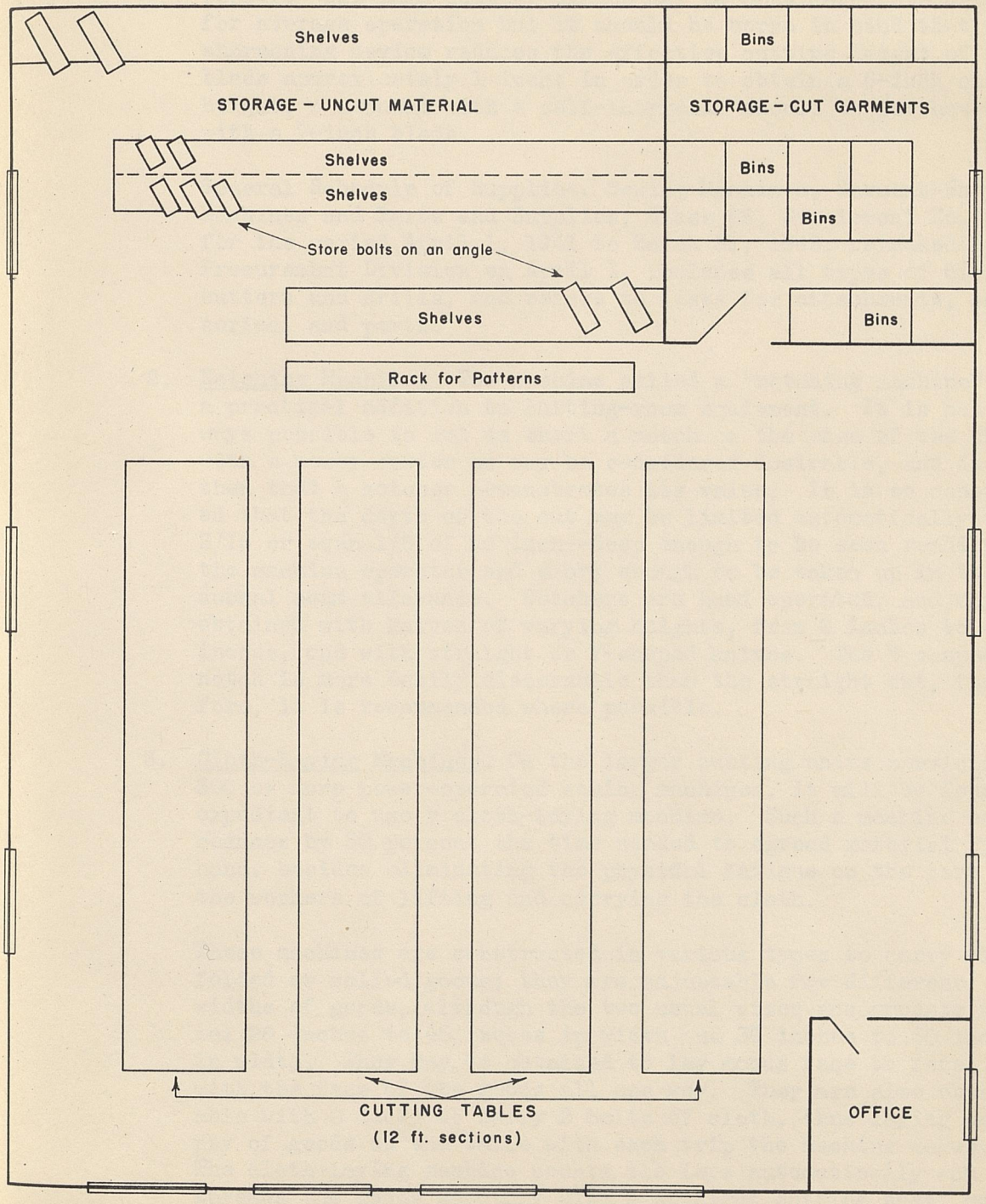
There are two types of power cutters, the straight knife and the rotary or circular knife. For general utility purposes, the straight-knife cutter is better suited to the needs of WPA sewing projects. The straight knife cuts smoothly every ply of light or heavy material on low or high lays, negotiates curves and sharp corners perfectly, and cuts short or deep notches as desired; it will cut a lay 5 inches or 1 inch high with equal precision. The rotary knife may be used to cut low lays of soft or light fabrics and straight lines.

Both types of cutting machines are obtainable in a variety of models, sizes, and styles. In the replacement of blades, greater economy may be effected by the purchase of the best blades made by the manufacturer of the machine in use. Straight knife cutters are obtainable with or without self-sharpening devices which are disengaged during the actual cutting operation. The self-sharpening action may consist of two endless abrasive belts or of two grinding wheels held at the proper sharpening angle against opposite sides of the cutting edge of the knife. Consideration should be given to this feature when deciding upon a purchase of cutting equipment. The use of a self-sharpener eliminates the time lost in sharpening blades by hand, prevents damaging the standards and plates (which cannot help but occur when blades are sharpened by hand), and sharpens the blade

P-1315

CENTRAL CUTTING UNIT

Figure 5



WPA 3954

uniformly with resultant even cutting on all lays; it reduces maintenance costs both in the number of knives used and general repair. Six-inch cutting blades may be considered standard for average operation but it should be borne in mind that a sharpening device reduces the effective cutting height of the blade approximately 1 inch; in order to obtain a 6-inch cutting height, a machine with a self-sharpener should be purchased with a 7-inch blade.

General Schedule of Supplies, Sewing Machines, Garment-Shop Machines and Parts and Supplies, Class 66, Supplement No. 2, for the period April 1, 1941 to March 31, 1942, released by the Procurement Division on April 1, includes all types of cloth cutters and drills, and refers to lists for attachments, accessories, and parts.

2. Notching Machines. The machine called a "notching machine" is a practical addition to cutting-room equipment. It is not always possible to cut as short a notch on the edge of the cloth with a power cutter as may be considered desirable, and it is then that a notcher demonstrates its value. It is so constructed that the depth of the cut may be limited automatically to 3/16 or even 1/8 of an inch--deep enough to be seen readily by the machine operator and short enough to be taken up in the normal seam allowance. Notchers are hand operated, and may be obtained with knives of varying heights, from 3 inches to 8 inches, and with straight or V-shaped knives. The V-shaped notch is more easily discernable than the straight cut, therefore, it is recommended where possible.

3. Cloth-Laying Machines. On the larger cutting units servicing 300 or more power-operated sewing machines, it will be found expedient to use a cloth-laying machine. Such a machine easily reduces by 50 percent the time needed to spread material by hand, besides eliminating the physical fatigue on the part of the workers of lifting and carrying the cloth.

These machines are constructed in various types to carry either folded or rolled goods; they are adjustable for different widths of goods, although the two usual sizes accommodate material 26 inches to 45 inches in width and 36 inches to 60 inches in width. They may be obtained to lay goods face to face, or with the face of the goods all one way. They are also obtainable with 2 decks to carry 2 bolts of cloth, thus laying one ply of goods on the table with each trip the machine makes. The cloth-laying machine counts the lays automatically and spreads the goods smoothly with a straight cutting edge, making lays up to 5 inches or 7 inches in height.

An accessory of the cloth-laying machine is the automatic cloth catcher so designed that when the spreading carriage reaches the end of the lay, two steel arms open automatically and grasp and hold the goods firmly in position while the machine is run to the other end of the lay, where the same operation is repeated.

Satisfactory cloth spreading machines may be made on WPA projects. The accompanying sketches will assist in the construction of such carriers (see figure 6).

4. Drilling Machines. Electric drilling machines are designed for marking the positions of pockets and darts. Various types and sizes of drills are obtainable for the machines--for use on light, medium or heavy goods, on lays varying from 3 inches to 6 inches high, and in sizes varying from 3/64 to 3/16 of an inch in diameter.

Drilling machines are particularly effective on large cutting units (see reference to General Schedule under item 1 of this subsection).

5. Thread Marking Machines. A device similar to a drilling machine in action but designed for use on woolen materials is the thread marking machine, for marking the position of pockets and darts. The machine is equipped with a needle which carries a thread perpendicularly through lays of material up to 5 inches in height, and an automatic thread cutter to clip the thread. A thread marking machine may be obtained for either hand or foot operation.

6. Cutting Tables. Cutting tables should be sturdily constructed of either wood or metal. Large cutting units which have ample space will find tables 72 to 96 feet in length to be most efficient; it has been found advantageous to have tables built in sections of not less than 12 feet, which can be put together in various sizes of rooms. A width of 48 inches will accommodate most types of fabrics. It is advisable that tables be so constructed that their height may be adjusted to the height of the workers; this may be accomplished by making the legs adjustable. If such construction is not feasible, a fixed height of 35 inches is considered practicable. It is further suggested that the legs of cutting tables be inset from 6 to 8 inches. Persons laying-in cloth or cutting will thereby be prevented from tripping or bumping against table legs that are flush with table sides.

The table top, or the surface which comes in contact with the fabrics, should be of hardwood, plywood, or of a composition material, such as masonite, which will not readily warp or mar. The surface should be hard and smooth and should be waxed regularly in order to preserve its finish.

Cutting tables may be equipped with shallow drawers in which to keep chalk, or other small equipment, and with open shelves or bins to hold textiles or cut materials.

7. Storage Bins or Shelving. Storage bins for textiles and cut garments must be sturdy and adequate in quantity for the amount of materials to be stored, and should be as nearly dust proof as possible in construction. Ventilated bins are necessary under certain conditions to prevent spontaneous combustion.

Shelving for textiles should be deep enough to accommodate the varying widths of textiles, from 27 to 42 inches as an average. It is advisable that the shelves be planned in 3 widths of 27, 36, and 42 inches, and that they be so constructed that the bolts or rolls may be placed at an angle. This angle allows for leverage and elbow room in placing and removing the materials, and requires much less physical effort on the part of the person handling them.

Bins for cut goods should be approximately 36 inches wide, 24 inches deep and 24 inches high and should be arranged in tiers.

D. Plan of Work.

1. Sponsors Production Requisitions. Sponsors and their representatives should be informed as to the types of articles that may be made on sewing projects. Their requisitions for garments should cover a period of at least 3 months, according to seasonal requirements, so that proper textiles and findings may be provided and production scheduled effectively. These 3-month requests should be anticipated at least 3 months in advance of the period in which production will take place, which means that fully 6 months should be allowed for planning and scheduling.

A general plan of production based on these sponsors requisitions should be made out by the State Supervisor, in consultation with district supervisors, for proper allocation of work. A definite monthly or weekly schedule should be set up for each unit, and actual performance should then be balanced against planned quota.

2. Specialization. It will be found practical to adjust production by apportioning the making of one or two types or articles to a given project unit within the district, or county, as may be consistent with the number and ability of women employed and types of sewing equipment available. Arrangements should be made far enough in advance of cutting to provide for a sufficient variety of patterns and an adequate supply of textiles and findings for each allocation of garments.

3. Requisitioning Materials. Requisitions for textiles should allow time for Federal or sponsor purchases to be effected in the normal manner--at least 6 months in advance of the time the finished articles will be needed. (see Manual of Rules and Regulations, page 2.9.028).

4. Cutting Orders. A consolidated cutting order that is prepared for an entire production order should include the garment description with identifying cut number, the number of items, the sizes, the pattern number, and the textiles to be used. The cu or lot number is used to identify the item throughout all production processes, and also as an identifying mark at the time the finished items are delivered to the warehouse for distribution. Each item on the original order is broken down into the required number of cutting orders, which, in addition to listing specifications contained in the original order, specify the number of items and sizes in the marker and the number of ply in the lay. The individual cutting orders are identified by the cut number, to which is appended a sequence figure designating each lay in consective order as cut. The cutting order is issued to the Marker Maker.

F. Techniques of Laying and Cutting.

1. Making the Marker. The marker is a single layer of cloth or paper on which all component parts of the designated patterns and sizes are outlined. In making the marker, the narrowest width of the specific kind of material should be selected, so that the marker will not overlap any ply. In arranging the pieces of the pattern on the marker, it is well to remember that the more sizes of the pattern used the less will be the waste of material. After the pieces of the pattern are properly laid out (smaller sizes and larger sizes in one marker), the pattern should be outlined with tailor's chalk, making sure to make the size of every piece of the garment in the marker. When all patterns of the various sizes to be used are marked on the single piece of cloth or paper, the marker should be cut off, allowing approximately 1 inch on each end for latitude. This marker is used as the guide for laying the material to be cut.

It is expedient to make carbon copies of markers when more than one lay is required to complete an order, or for standardized garments that may be called for soon again.

An alternate method of making markers (the perforated marker) is that of marking a complete lay of several sizes of a garment on heavy kraft paper or special chemically prepared pattern paper, and retracing these markings with an electrically operated perforating machine. This machine has a notched wheel

(obtainable in various tyles of notches), which cuts holes in the master marker. The master marker may then be used repeatedly in making the cloth marker. A specially prepared powder is sprinkled over the marker, which, sifted through the perforations clearly outlines it on the top strip of the lay. It is practical for standard garments, such as men's and boys' overalls, dungarees, trousers, jackets, pajamas, work and dress shirts.

2. Laying the Material. As many ply or thickness of material as are required by the job order should be laid on cutting table, with one side exactly even with a designated margin on the table.

There are four accepted means of designating dozens in the lay: (1) by varying the colors by dozens; (2) by alternating plain material and figured material; (3) by using paper dividers between each dozen; and (4) by placing at frequent intervals salvaged strips of cloth (or paper) about 1 inch wide and long enough to reach across the width of the table between each dozen ply.

Due to the varied lengths of bolts of cloth, it becomes necessary to make splicings, sometimes called piecings or laps. These splicings are made only at the end of a section of a pattern, or at a designated place at a point where there is a complete break. An approved symbol for locating splicings that will readily identify the lap to cutters and assemblers should be indicated on the table.

At this point, the Cutting Foreman should check the lay and the amount of textiles used should be properly recorded.

3. Cutting the Lay. Small pieces that may be easily reached by power cutting machine may be cut first, as it is difficult to hold them in place when larger pieces are removed. Careful guidance of the power cutting machine is most important, as the slightest deviation from the line may ruin the garment or change its size. Notching machines should be used carefully, but should adequately cut the notches as indicated on the marker. Drilling machines and thread marking machines should be used with accuracy and precision. Every top section should be marked with the size of the garment. It is suggested that a different color chalk be used for each size, which will preclude future mixing of sizes.

The Cutting Foreman should check the cut and approve it for release to the assemblers. Adequate record of work should be made.

(December 29, 1941)

F. Assembling the Bundles. The cut should not be removed from the table upon which it was cut. The assemblers should go to the table and garments should be assembled in bundles of 12 each. The dividers that were inserted between every dozen layers facilitate the assembling process. Each group of garment parts is divided into dozens. For example, in assembling bundles of shirts, the assembler lays out 12 backs and places 12 left fronts and 12 right fronts on top of backs, on top of these he lays the 12 left sleeves, 12 right sleeves, and then the smaller pieces, such as plackets, gussets, facings, yokes, cuffs, collars, and collar bands, by twelves. Every outer piece of each dozen parts should be marked with the size of the garment. Every complete bundle of 1 dozen garments is rolled up properly and tied securely so that small pieces may not be lost. The bundle tag or ticket bearing the following information is placed under the string on every bundle: date, order number, lot number, bundle number, number of pieces by garments, size of garment, type of garment, Assembler's number.

The bundles, having been properly checked, approved by the Assembly and Shipping Foreman, and recorded, are then released to the shipping department to be distributed to the various units or to the stockroom for storage until they are needed.

G. Shipping of Cut Garments. Bundles containing assembled items are received in the shipping department from the cutting room and are checked against the cutting order, a copy of which has been forwarded from the cutting room. These bundles should be neatly arranged in bins according to type of garment and size, or carefully packed in hampers, according to the production order for the fabrication unit to which they are consigned. Hampers should be locked and not opened again until they are received by the unit supervisor.

Where a central supply of findings is established, the correct quantity and quality of thread, buttons, and other trimming should accompany the shipment of garments. These items should be sent in boxed lots as they are received from the vendor; not counted in proportion to the exact number needed for the particular order.

Adequate records should be maintained in accordance with the provisions of the Manual of Rules and Regulations, Volume 4, Chapter 3. Book inventories should be maintained, and a physical inventory should be taken on designated dates.

PART IX. MATTRESS PROJECTS

Section 29. Conditions of Operation. The making of mattresses as set forth in Operating Procedure No. G-1, section 87, is an eligible activity. These projects may be operated either as a phase or unit of a consolidated State-wide sewing project. A project may provide for Statewide, district, or local organization, depending on the need. Only new materials may be processed. Regulations pertaining to these activities as set forth in Operating Procedure No. G-5, section 6, shall be observed.

This part of this circular has been prepared to assist in the organization and operation of these units and to recommend standards in the processing of mattresses.

Section 30. Personnel. The supervisor should be a person with industrial experience and a thorough knowledge of mattress making. In addition, he should be safety conscious and have a thorough knowledge of WPA safety regulations. Assistants may be required if the size of the project or units warrant additional supervision for general or specific phases of the work. Foremen may be assigned as required. Personnel shall be assigned according to classification as set forth in Operating Procedure No. E-9.

Mattress makers should have ability to perform the work assigned in accordance with established standards of workmanship and production. They should be able to follow instructions, be mentally alert, and have manual dexterity. Under supervision, they should be able to perform specific operations assigned, such as marking and cutting ticks, sewing on power machines, operating mattress-filling machines, distributing evenly mattress filler by beating, marking for tufts, tufting, and rolling the edges.

Handling, bundling, or wrapping of mattresses should be done by persons classified as "helpers, nonconstruction."

Because of the special hazards involved in the production of mattresses, every precaution to safeguard employees shall be taken in accordance with WPA Safety Bulletin No. 26. Adequate first-aid service should be available; in larger projects employing 100 or more workers, a registered or graduate nurse should be employed.

All accidents shall be reported according to the instructions as provided on pages 2.5.046 - 2.5.049 of the Manual of Rules and Regulations.

Any person who is known to have a communicable or contagious disease should not be permitted to work on the mattress project.

Section 31. Physical Facilities. The hazards of mattress making are primarily those of handling, storing, and working a combustible material. Dust concentration and open piles of stock would cause a fire to spread rapidly. Heated bearings in machines and fans, sparks from open motors, unprotected electric fuses or incandescent lamps, poor housekeeping, and smoking are common causes of fire. It is important that the assistance and advice of WPA safety consultants be obtained and that safety regulations be closely obeyed.

A. Housing. Building construction should conform to local ordinances and the location approved by the WPA safety consultant before occupancy. A well-constructed building, preferably of fireproof or mill construction, with sprinkler system is recommended. It should be located at a safe distance from other industrial plants from which there is danger of sparks, or all outside openings should be suitably screened. The proper protection of floor openings is particularly important because of danger of rapid spread of fire. Adequate exits should be available in case of emergency. The size of the space should be sufficient to avoid overcrowding and to allow for proper ventilation. Exhaust fans should be installed where needed.

B. Lighting. Whether natural or artificial, lighting should be adequate. Open lights of any kind are prohibited. Incandescent lights protected by vapor-proof bulbs should be used in workrooms and warehouses.

C. Heating. Heating systems should be of the circulating hot water or low-pressure steam type. Under no circumstances should open-flame heating, such as coal, oil, or gas, be permitted in the workrooms.

D. Storage and care of materials. Stock of raw cotton should be limited to approved floor load and piled only one bale high standing on end, allowing for expansion to the extent of 20 percent of their bulk in any direction. Sufficient aisle space for inspection and for handling by trucks should be maintained. An adequate number of two-and-one-half gallon soda-acid fire extinguishers should be placed at strategic locations.

E. General Conditions. Smoking should be absolutely prohibited.

Adequate and sanitary toilet and lavatory facilities should be provided.

Elevators, shafts, and stair wells should be enclosed with fire-resistant material.

Stairways should be kept dry and in good repair, and hand rails provided.

Walls, pipes, and radiators should be kept free of combustible material and dust.

Covered metal cans for waste should be provided.

Drinking water shall be provided in accordance with paragraph C, section 1, WPA Safety Bulletin No. 1

Section 32. Equipment and Operation The preferred technique in the manufacture of mattresses is as follows: A bale is broken, the cotton is processed through a picker and blower and blown into a tick which has been cut and sewn in the proper size and shape. The opening in the tick is then sewn. After beating, the mattress is tufted and roll edged.

Ticking comes in bales weighing about 500 pounds and containing approximately 1,200 yards of material. It is brought to a cutting table which should be about 4 feet wide and 45 feet long. This table should be marked for the size of mattress ticks being fabricated, including the boxing. The material is laid on the table in 120 to 140 plys. It is then cut according to marks by an electric power cutter. The pieces are assembled and stored ready for sewing. A power line of single-needle sewing machines (either shaft driven or individual motors) is used to sew the ticks twice all the way around with the exception of a small opening at one end about 18 inches long. They should be inspected to determine that all corners are straight, stitching secure, and seams durable, and are then stored ready for filling. Every tick should bear a label "WPA - Not to be Sold" and such other identifying information as is required locally.

The cotton room should be within dust-proof partitions and may be large enough to accommodate a cotton-fluffing machine, scales, sewing machine for closing the 18-inch opening after ticks are filled, and large tables for beating. It is desirable that the scales and fluffing machine be housed separately to minimize the dust hazard.

The cotton is delivered in bales wrapped in burlap and bound with metal bands. The bands are broken, the burlap removed, and these are stored for release according to established regulations. As a fire precaution, not more than one full bale of cotton is permitted in the processing room at one time.

The broken bale of cotton is weighed in lots required for the size of mattress being processed, ready for the operator or feeder of the cotton-fluffing machine. The cotton passes through the machine which fluffs it, removes dirt, and blows it through an attachment to which the mattress tick is fastened at the opening. When the tick has been filled with the measured amount of cotton, it is removed to a sewing machine where the 18-inch opening is sewed securely. The mattress is then placed on a table and the cotton equally distributed by beating.

It is essential that large exhaust fans be provided in this room to draw out the dust. All men working in this room are required to wear dust respirators, and all electric lights, connections, and fuse boxes must be spark-proof. Two-and-a-half-gallon soda-acid fire extinguishers should be also included in the required equipment of this room.

After beating, the mattress is taken from this unit to the tufting section where it is placed on a table (the top of which is made of slats), marked, and tufted. It is then ready for the roll-edge operation. (It is important that the needles for these operations be kept sharp).

The next operation is performed on what is known as a tie-down table, similar in construction to the tufting table. Cotton tufts are inserted under the tufting twine (previously inserted), and the tufting twine is pulled tight and securely fastened. T his operation shapes the flat

surfaces of the mattress. It is then ready for inspection. Any necessary repairs or adjustments are made by employees reserved for that particular function and not by the persons in the production line who made the errors.

Mattresses should be wrapped in heavy kraft paper or other suitable covering, and tied, ready for shipping.

Section 33. Distribution The distribution of mattresses is the responsibility of the sponsor. It should be noted that the U. S. Department of Agriculture has ruled that cotton purchased under the Surplus Marketing Administration and allotted by them to State Public Welfare Agencies may not be used in the construction of any articles for distribution to institutions. Such cotton may be processed into articles for distribution to needy households only.

PART X. COMFORTER PROJECTS

Section 34. Conditions of Operation. The making of comforters is eligible and may be undertaken as a phase of a consolidated Statewide sewing project, in conjunction with a mattress unit or as a separate project. Regulations pertaining to these activities as set forth in Operating Procedure No. G-5, Section 6, shall be observed.

Section 35. Personnel. Supervision should be adequate to insure the established standards of quality and quantity production. Supervisors should have a thorough knowledge of the processes involved in the production of comforters and should be competent to direct the work of others.

Personnel shall be assigned according to classifications within the regulations set forth in Operating Procedure E-9.

Section 36. Physical Facilities. Housing and equipment facilities should conform to the needs of this project. For more specific information see Section 31 of this circular. Fire and safety regulations as prescribed by local ordinances and by the WPA safety consultant should be observed.

Section 37. Equipment and Operation The preferred technique in the manufacture of comforters is as follows: The covering or casing is cut and sewn, one end being left open. The casing is then marked on a table which has grooves cut in the top surface. These markings serve as guides for the machine quilting. The commercially garnetted cotton is spread on a travelling rack which is rolled into a funnelled tube the width of the travelling rack, and over which the open casing has been shipped. After the casing is filled and the rack pulled out, the open end is sewn. The quilting is done by a sewing machine following the guide line mentioned above.

The comforter covering material is cut not less than 84 inches and not more than 90 inches long. The width of the finished comforter will be not less than 70 inches, using 36-inch material and allowing approximately 3/8 inch for both center and outer seams. The material for both top and bottom is cut in one continuous piece, folded, and stitched together in envelope form, leaving one end open.

A. Marking The coverings are placed on a table with a masonite top which has six grooves or depressions cut 5 inches apart, as shown in figure 7. The grooves serve as guides for marking the quilting lines. This may be done with tailor's wax.

B. Filling The bat, either commercially garnetted or machine fluffed, weighing from 3 to 5 pounds is used. The following process is recommended where garnetted cotton is used.

A filling table equipped with a metal tube the width of the comforter is used for placing the garnetted cotton in the cover. This table is constructed in two sections, each 8 feet long, with the metal tube fastened to the end of the first section and extending over the second section, as shown in figure 8. Specifications for the filling table are included in this circular (see figure 9).

The garnetted cotton is laid on a frame which moves on rollers. This frame is the same size as the comforter. The frame and the cotton are rolled through the tube and into the covering which is slipped over the tube. This pushes the comforter off the tube and leaves the rack

and the cotton inside the comforter. While one employee holds the cotton-filled comforter, another employee pulls the rack back to its original position on the table (see figure 10).

The open end of the comforter is then stitched by machine.

C. Quilting The quilting may be done on a 31-15 or 61-W sewing machine if the feed is removed. The lines previously marked at the marking table which designate six rows of quilting 5 inches apart must be followed.

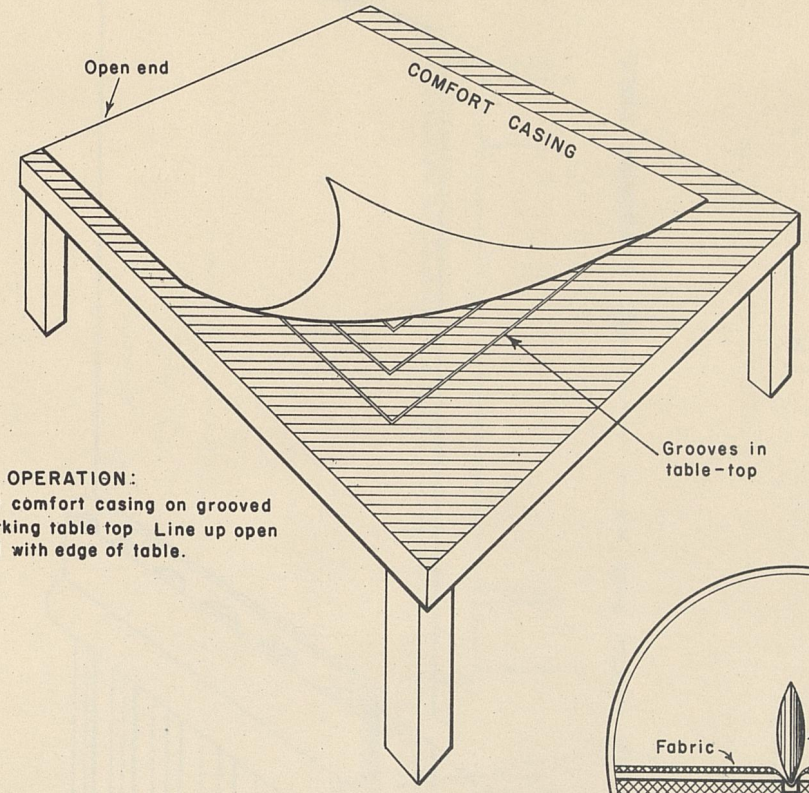
D. Inspection and Clipping of Threads The comforter should be inspected to see that the quilting, seaming, and clipping of threads have been done properly and neatly, and to determine if any repairs are necessary. It should be folded and wrapped in heavy paper (48-inch stock) ready for shipment to the distributing center.

The production of comforters by the method described above should average one comforter per employee every 60 minutes.

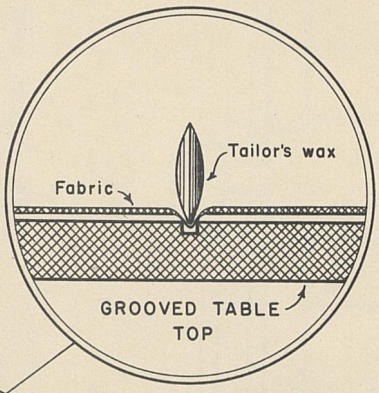
P-1315

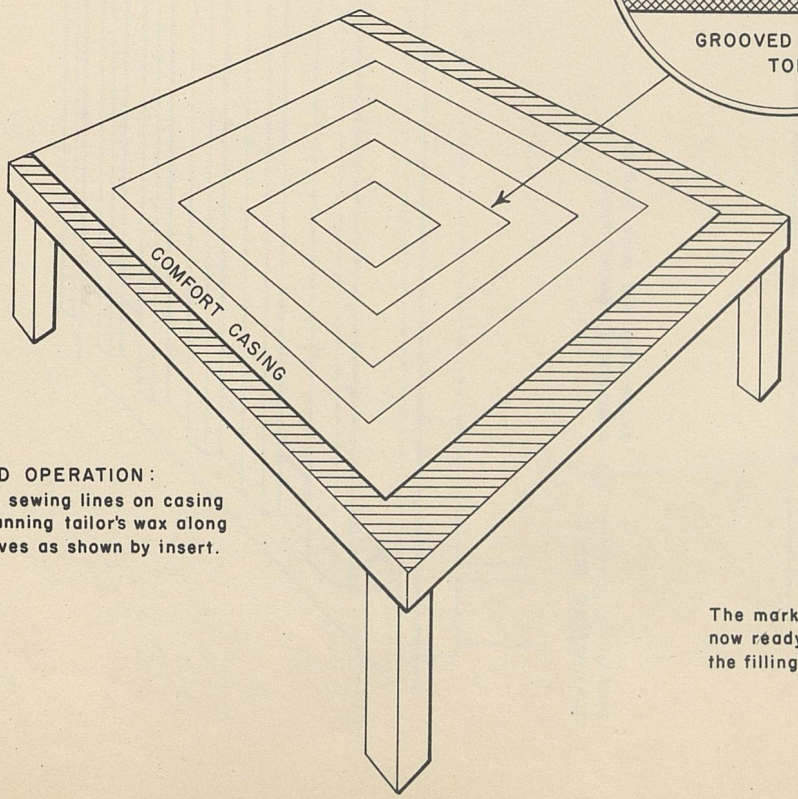
MARKING CASINGS

Figure 7



FIRST OPERATION:
Lay comfort casing on grooved marking table top Line up open end with edge of table.





SECOND OPERATION:
Mark sewing lines on casing by running tailor's wax along grooves as shown by insert.

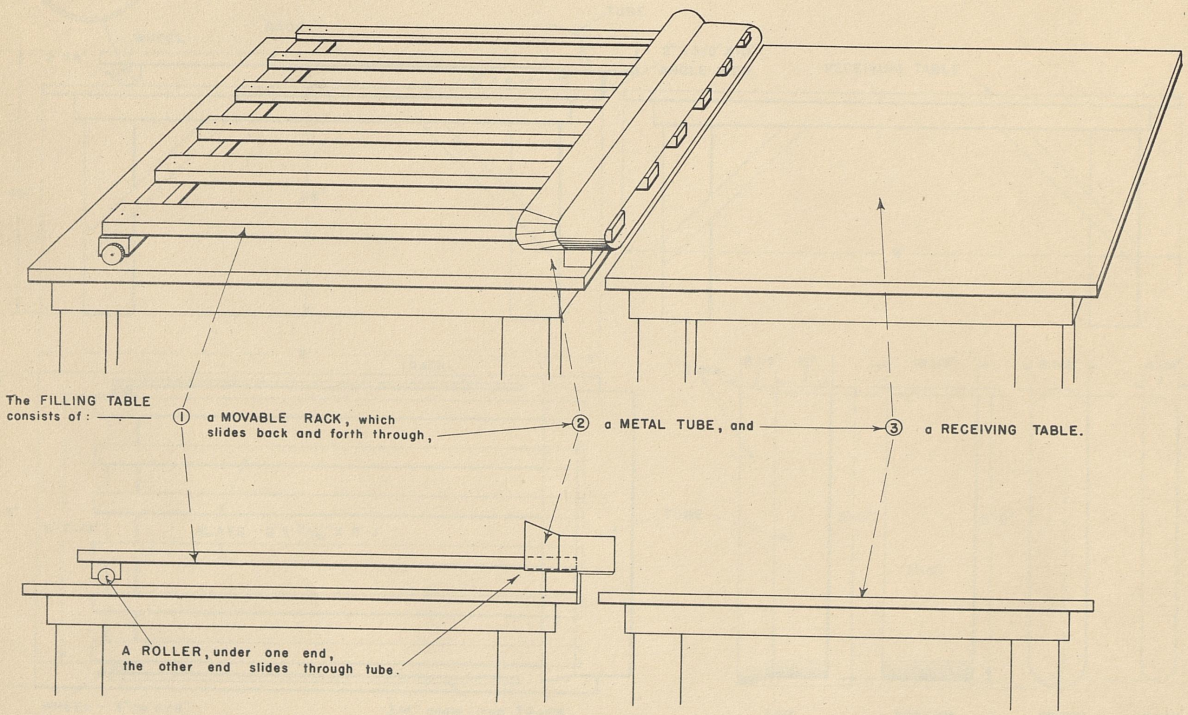
The marked casing is now ready for transfer to the filling table.

WPA 3956

P-1315

THE FILLING TABLE

Figure 8



SIDE VIEW

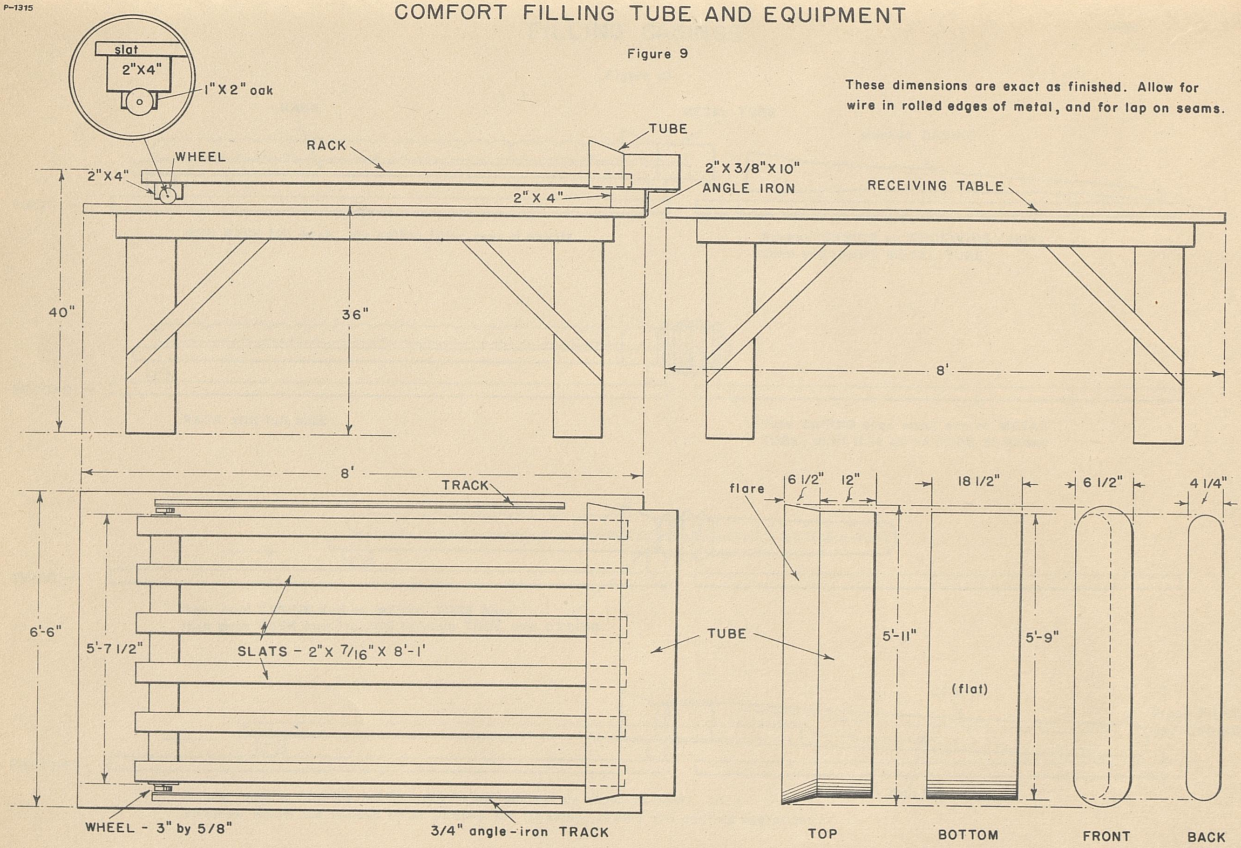
WPA 3957

P-1315

COMFORT FILLING TUBE AND EQUIPMENT

Figure 9

These dimensions are exact as finished. Allow for wire in rolled edges of metal, and for lap on seams.

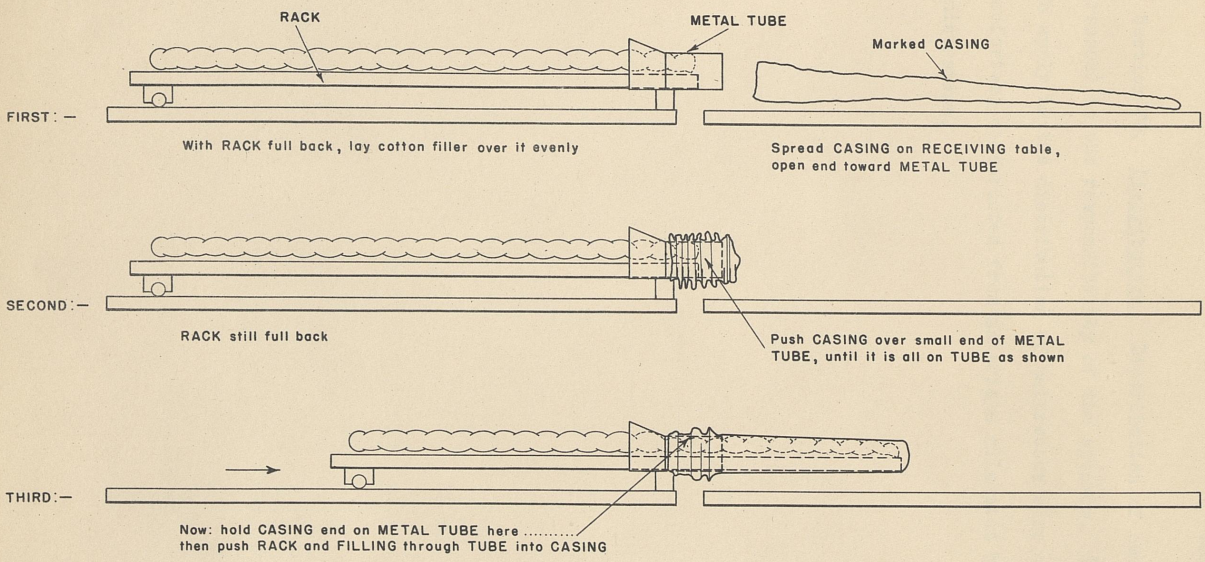


WPA 3958

FILLING CASINGS

P-1315

Figure 10



WPA 3959

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Sewing, Mattress, and
Comforter Circular No. 1
Sec. 38

Section 38. Distribution. Distribution of comforters (as well as mattresses) is the responsibility of the sponsor. The same restrictions which apply to the distribution of mattresses also apply to the distribution of comforters constructed from materials allocated by the Surplus Marketing Administration.

(December 29, 1941)

PART XI. TRAINING (PRE-SERVICE AND IN-SERVICE)

Section 39. Planning the Training. As applied to the sewing project, induction or pre-service training introduces the employee to the job and provides training in technical skills. In-service training is a continuous and specific training of the employee on the job so that she may become more proficient. It includes instruction both in technical and administrative matters.

The State Director, Division of Community Service Programs, as stated in Operating Procedure No. G-5, section 5, shall determine the amount of training time to be allowed. The maximum allowance for training time shall be 2 weeks for induction training and a maximum of 20 hours per month for continuous training relating to project work performance.

The development of a training program to meet the needs of the State-wide sewing project is the responsibility of the State project supervisory staff, subject to administrative approval. Among those who may be called upon to assist in the training program are State Welfare Chiefs, a representative of the State training staff, and District Directors and Supervisors. Such consulting services of the State training staff may prescribe techniques and methods of teaching, physical organization of training groups, and personnel management.

In some States, consultant services may be available to the State sewing supervisor from the State training supervisor. Such consulting services can include techniques and methods of teaching, physical organization of training groups, and personnel management.

Section 40. Training on the Supervisory Level. Training of supervisory personnel for the job should be conducted on all levels. The objectives of this training should be: (1) to better equip the supervisors to meet job requirements, and (2) to interpret to them all new policies and procedures, both administrative and technical, which are related to the sewing project.

A. Means of Training. Periodic conferences, direct assistance from regional supervisors and Washington consultants, bulletins and written instructions from the State office, project inspections, referral libraries, and exhibits constitute means of training supervisory personnel.

B. Subject Material. The material to be presented in training should include the following:

1. Interpretation of policies and procedures of the WPA program.

2. Efficient project operation

   (a.) Supervision
   (b.) Delegation of duties
   (c.) Planning of work
   (d.) Giving orders

3. Teaching techniques.

4. Leadership.

5. Methods of pre-service and in-service training for foremen and seamstresses.

6. Production plans and processes.

7. Standards of quality and quantity of production.

8. Standard sewing constructions.

9. Garment inspection.

10. Standards for cleanliness and housekeeping.

11. Safety.

12. Project records.

(December 29, 1941)

Section 41. Foremanship Training. In all sewing units a training course for foremen should be conducted as prescribed by the State supervisor of the sewing project. The district sewing supervisor is charged with the responsibility of seeing that an adequate training course is being carried on in all units within his district.

A. Specific Objectives. For Formanship Training The specific objectives are:

1. To become thoroughly familiar with WPA sewing standards and methods.
2. To assist the foreman in studying and analyzing her job.
3. To give training in teaching methods.
4. To improve both quality and quantity of production.
5. To develop leadership.

B. Methods. Training should include conference or group meetings, study and discussion of the sewing manual and other written instructional material, and personal contact with the unit supervisor. All required technical work presented at the group meetings should be demonstrated through blackboard work and sewing-machine operation.

When practicable, individual group members should participate in the class demonstration activities. Demonstrations given by individual group members should be carefully planned and checked with the unit supervisor in advance of presentation.

C. Subject Material. The material to be covered should include:

1. Interpretation of the WPA program and the sewing project.
2. Duties and responsibilities of the foreman
3. Fundamental sewing-machine operations.
4. Standard sewing constructions.
5. Standards for quality and production.
6. Leadership.
7. "Group" or "line" work.

(December 29, 1941)

8. Step-by-step training method for seamstresses.

9. Safety.

10. Project records and reports.

Section 42. Employee Level (Pre-Service) Training

A. Objectives Pre-service training on objectives on the worker level are to acquire.

1. An understanding of the objectives of the WPA sewing project.

2. Knowledge of the regulations applicable to workers and an appreciation of their purpose.

3. Skill in use and care of the equipment to be used.

4. A thorough knowledge of progressive work plans in the construction of garments.

5. Skill in the performance of specific work assigned.

B. Methods. Specific training should begin immediately upon assignment of a new employee. She should be referred to the training section, which is separated from the production groups or lines.

On medium or large size projects, the supervision of this training unit should be delegated to a specific foreman. On small units this will become a normal duty of the foreman or supervisor in charge of the unit.

The methods employed in conducting pre-service guidance may be discussion, demonstration, and participation in the activity.

Outlines for training for central services and other phases of project operation should be included in the State training program to meet specific needs.

A suggested procedure for pre-service training on the employee level in a fabrication unit is developed in 3 major steps: (1) introduction to the job; (2) specific instructions for the construction of simple garments; and (3) introduction to group or line fabrication.

Each employee should be required to complete each step consecutively in a specified time. No employee should undertake the more difficult tasks until she has satisfactorily completed the previous assignments.

Step 1. Introduction to the Job

a. General rules and regulations of the Work Projects Administration.

b. Opportunities afforded by employee training course.
(1) Developing skills
(2) Advancement
(3) Developing good work habits

c. Unit system of training.

d. Cleanliness and personal appearance.

e. General directions for operations preparatory to construction of a garment.
   (1) Correct posture while sewing.
   (2) Value of use of right type of equipment.
   (3) Use of the sewing machine and attachments
      (a) Threading the machine
      (b) Winding, threading, and placing bobbin in position
      (c) Setting needles properly
      (d) Stopping and starting machine
      (e) Anchoring material with needle
      (f) Turning corners
      (g) Guiding material
      (h) Machine tacking
      (i) Straight stitching
   (4) Care and oiling of the machine.
   (5) Safety.

Step 2. Specific instructions for construction of simple garments. Although the group or line plan of production is required for general operation, a portion of this training course may be conducted on an individual garment basis prior to specific units devoted to training in the group or line production. These should be simple garments with few construction problems in order to familiarize the employee with the use of equipment. Employees should complet the individual garments in this unit within a satisfactory time and in an acceptable manner before proceeding to the next step.

The employee should be given the order of steps for fabrication and each new problem presented should be demonstrated by the foreman.

Step 3. Introduction to Group or Line Fabrication. Employees successfully completing Steps 1 and 2 in accordance with instructions contained therein should proceed with Step 3.

a. Advantages of plan.
b. General operation.

The steps in the fabrication of a garment should be established and the worker provided with a listing of the specific operations assigned her.

In units where specialized fabrication is practiced the type of garment or garments made will determine the garments to be included. The employee may be instructed in the fabrication of only one type of garment, depending on the set-up of the particular unit.

If an employee has satisfactorily completed the pre-service period she should be transferred to a production unit. The employee in charge of training recommends the operation in the group or line within the assigned classification which the employee appears most capable of doing at the time of completion of training.

Section 43. In-Service Training

A. Specific Objectives.

1. To provide training so that employees may reach maximum efficiency.

2. To provide additional training for those employees whose production is not meeting the required standards.

3. To train employees in new jobs in order that qualified personnel may be available for replacements.

After an employee has been assigned to a production unit and performs satisfactorily, spot training is generally sufficient to enable the employee to maintain desirable standards. Spot training is in most cases accomplished by the foreman by giving personal instructions or assistance in some particular phase.

Employees may be taken from the production line and returned to the training unit as often as necessary for acquiring technical knowledge and skill on specific problems.

B. General Instructions for Recording Results of Training Course.

1. Training Record for Individuals on Sewing Projects. A record of production should be maintained on each employee in training, which should include the following: type of garment, material, size, steps of production, and quality of work. Quality of work should be graded as satisfactory or unsatisfactory.

A suggested form for recording these results is included in this section. It should be noted in column (5) that actual time required for the completion of garments on an individual basis, as given under step 2 in section 42, should be recorded. However, in step 3 it should not be necessary to record the time required for each step, but indication should be made that the job was or was not completed within a satisfactory time. This should be left to the judgment of the supervisor who will determine this by the ability of the employee to feed the other machines in the group or line.

2. Report to Division of Employment. The individual employees training record will form a part of the evaluation of the Unit Supervisor of the sewing project in reporting to the Employment Division.

TRAINING RECORD FOR INDIVIDUALS ON SEWING PROJECTS

Name _____ Date Assigned to Project _____

Official Project No. _____ Date Training Course Completed _____

County _____ Aptitude of Employee _____

PRODUCTION

(1) Date	(2) Type Garment	(3) Size	(4) Material	(5) Time Required	(6) Operations	(7) Quality of Work

1. Has this employee been tried on all phases of work in the training course?
2. Did worker complete satisfactorily all steps of production in all units?
3. In your opinion, if employee was not able to meet minimum production and quality requirements, is this due to inability to master work or to unwillingness to perform work according to her ability?
4. Does employee have any physical handicap which to your knowledge prevents her from working efficiently?

Signed _____
Supervisor of Project

(The reverse of this sheet may be used for other comments)

(December 29, 1941)