PLANT REQUIREMENTS FOR MANUFACTURE OF STORAGE BINS

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
COMMUNICATIONS RESOURCES DIVISION
Washington 25, D. C.

FOREWORD

This brochure is one of a series of reports resulting from overseas technical inquiries on factory or commercial establishments, operation, management, and engineering. The report is designed to provide only a general picture of the factors that must be considered in establishing and operating a factory of this type. In most cases, plans for actual installations will require expert engineering and financial advice in order to meet specific local conditions.

Mention of the name of any firm, product, or process in this report is not to be considered a recommendation or an endorsement by the Agency for International Development, but merely a citation that is typical in its field.

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The original report was prepared by the Office of Technical Services, U.S. Department of Commerce.

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This report has been revised and rewritten by Vitro Engineering Company, a Division of Vitro Corporation of America, Washington Branch, 1025 Connecticut Avenue N. W., Washington 6, D. C.

For further information and assistance, contact should be made with the local Productivity Center, Industrial Institute, Servicio, or United States Aid Mission.

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625 Fulton Street
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Secrest Machine Corporation
2772 South Randolph Street
Arlington 6, Virginia

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INTRODUCTION

The purpose of this report is to present basic information for establishing a small factory to manufacture metal storage bins in a foreign country.

Storage bins may be made in many styles such as partitioned boxes; tilting, revolving, and stackable bins; removable bin boxes; collapsible crates; bench-type bins; wire bins; lightweight rigid crates and tote boxes; hanging bins; and many others.

All these types are useful for storing small or large parts systematically to save space and manpower in stores, repair shops, factories, hospitals, schools, warehouses, etc. Tools, repair parts, and other articles are plainly visible and easily accessible, and inventory counting can be simplified by their use. Storage bins can also increase the speed of handling and moving goods in interplant and inplant transportation, reduce material handling, and expedite processing of shipments.

The plant proposed in this report requires only a modest capital investment in machinery and tools, and a small efficient labor force. At first, only simple type bins should be fabricated to suit local needs. Later the products can be widely diversified, and the production rate increased, to adapt to the demands of an expanding domestic market. This type of small factory should be very practical and easily supported by the urban population of an in dustrially developing country.

GENERAL ASSUMPTIONS

In order to make realistic cost estimates in this report, it is necessary to make the following assumptions:

1. The costs of the building and general facilities are based on United States prices.

2. Material and equipment costs are based on sizes and specifications current in the United States.

3. Labor costs are based on the average for the industry as recently published by the United States Bureau of Labor Statistics.

4. Adequate and suitable water, power, sewerage, and transportation facilities are available at the plant site.

5. This plant operates eight hours a day, five days a week, fifty weeks a year.

6. The plant manager and the foreman are capable and experienced men able to do all the labor training necessary. It is assumed that learner's rates will be paid in such cases, and that the costs can be charged under unforseen expenses.

7. The following items cannot be estimated realistically:

   a. Land value

   b. Distribution and selling costs

   c. In-freight and out-freight

   d. Administrative costs

   e. Taxes

   Approximate estimates are made for each of these items, with the exception of taxes, for the purpose

of completing cost estimates; however, adjustments should be made in accordance with actual local costs.

8. All cost estimates contained in this report are to be adjusted to conform to local conditions. Columns are provided in the tables included in this report to facilitate conversion of cost figures to those existing locally.

PRODUCT SPECIFICATIONS

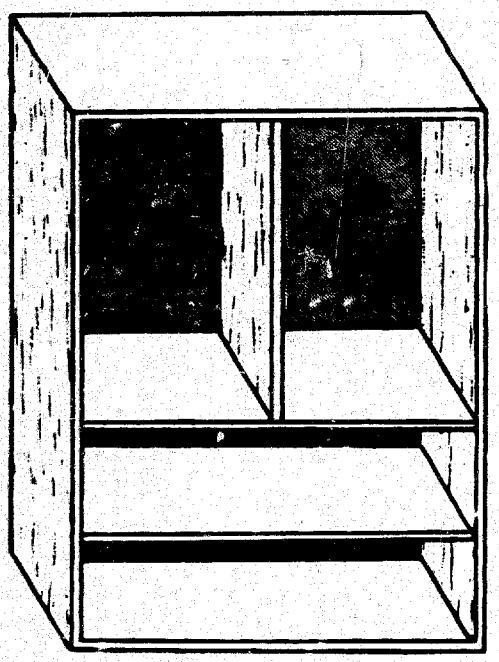
All information and costs contained in this report are based on the initial production of only two types of bins: (1) medium size, partitioned box-type bins; and (2) small, stackable bins in sets of four. Variations in sizes, number and placement of partitions, and the manufacture of other types, can be added when feasible. Figure 1 illustrates a few of the various types of bins which might be manufactured.

The two types of bins mentioned above are constructed of hot rolled, commerce quality, flat, 18-22 gage sheet steel. Other types may require electrically welded steel wire or metal mesh. Various size angle irons, bolts, nuts, washers, and rivets will also be required as well as paint for finishing.

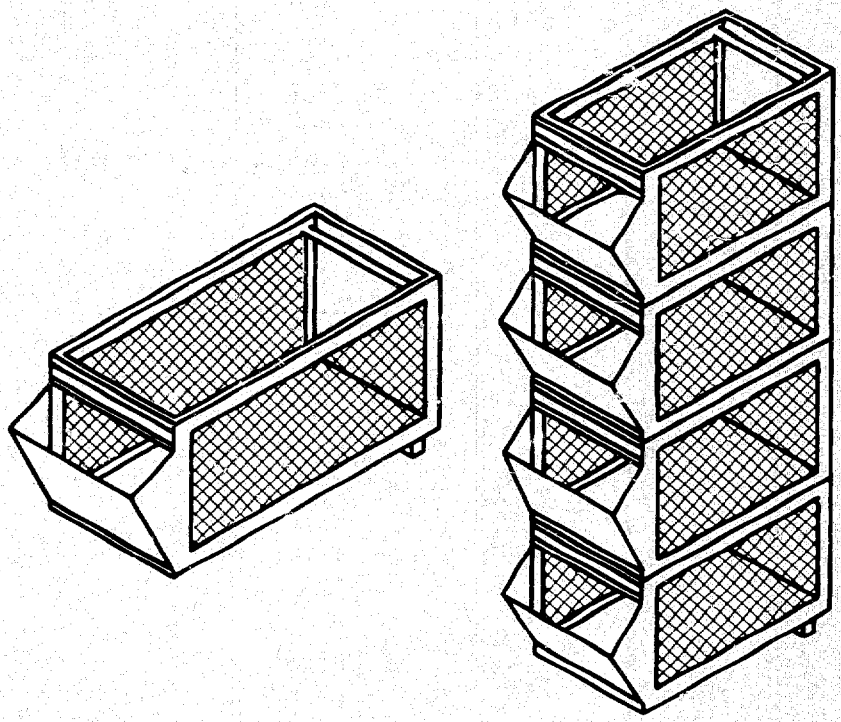
For sheet steel, The American Society for Testing Materials (ASTM) lists specification A415-58T - Hot rolled Carbon Steel Sheets, Commercial Quality, Tentative Specification for.

PRODUCTION CAPACITY

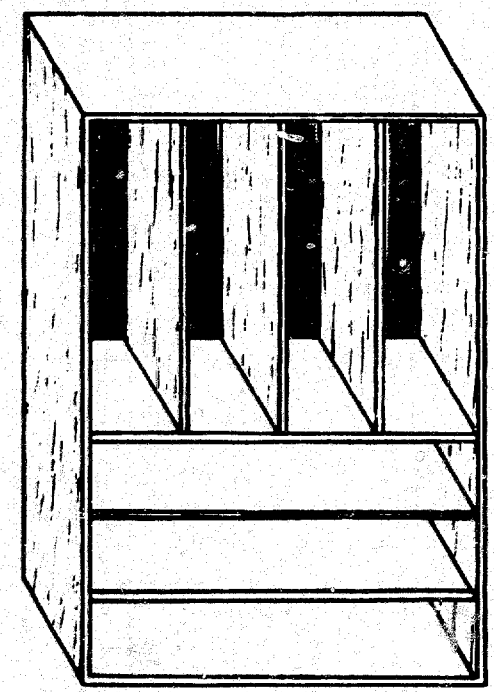
This plant has an annual production capacity of 3000 storage units consisting of either the medium size box-type bin or a set of four stackable bins. These two types, each termed a unit, are considered to be fairly equivalent to each other in amounts of materials and unit cost. Therefore, the daily eight hour production output may be either 12 box-type bins or 12 sets (48) of stackable bins. Depending on the market demand, one type or the other may predominate. The plant should reach its rated production in about one month, with all labor training being accomplished by the manager and the foreman



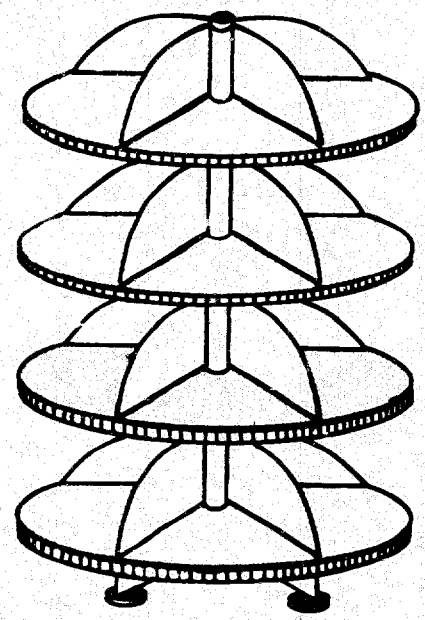
PARTITIONED
BOX – TYPE BIN



STACKABLE BINS



PARTITIONED
BOX – TYPE BIN



REVOLVING
BINS

Figure 1. Some Typical Types of Storage Bins

MANUFACTURING UNIT

The manufacturing unit is either the single box-type bin or the set of four stackable bins.

MANUFACTURING OPERATIONS

It should be the responsibility of the shop foreman to organize and schedule the manufacturing cycle for the most efficient production. This will vary with the type of bin being fabricated.

Patterns are usually made up and used as guides in operations such as cutting, shaping, punching, piercing, drilling, joining, welding, and riveting. These patterns are retained in stock for use in future production of the various types of bins.

The following manufacturing operations are required, but do not necessarily follow the sequence given:

Shearing or cutting. The metal sheet or mesh is cut to a predetermined size by a power shear such as the one shown in figure 2.

Shaping. Shaping the metal to the required configuration is accomplished with a bending brake similar to the one shown in figure 3.

Punching. The required number of properly sized and located holes are punched in the metal sheet or mesh by a hand or bench punch. A hand punch suitable for this operation is illustrated in figure 4.

Angle-iron fabrication. The required holes are punched in the angle-iron stock after which it is cut to size with a shear such as the one shown in figure 5.

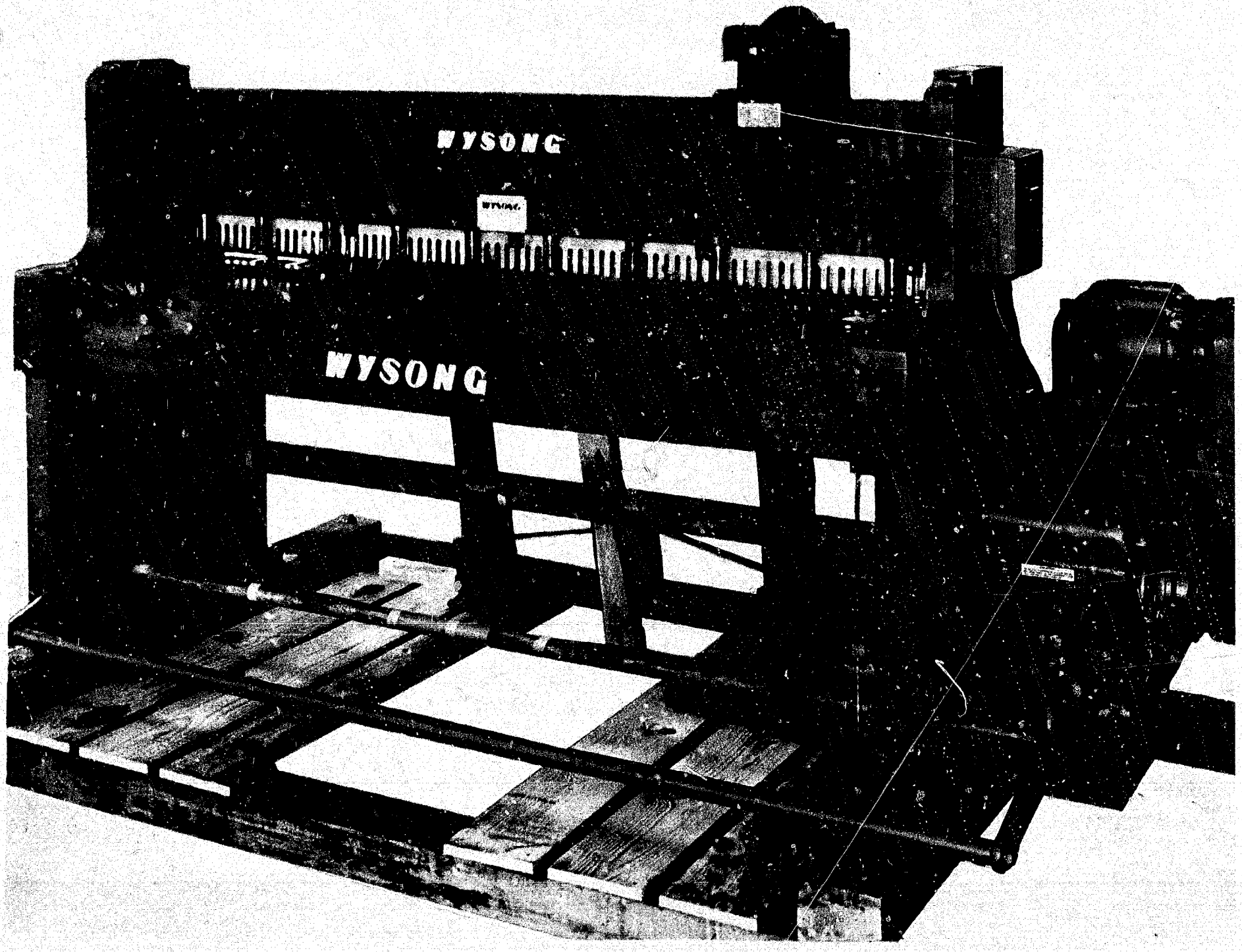


Figure 2. Power Square Shear

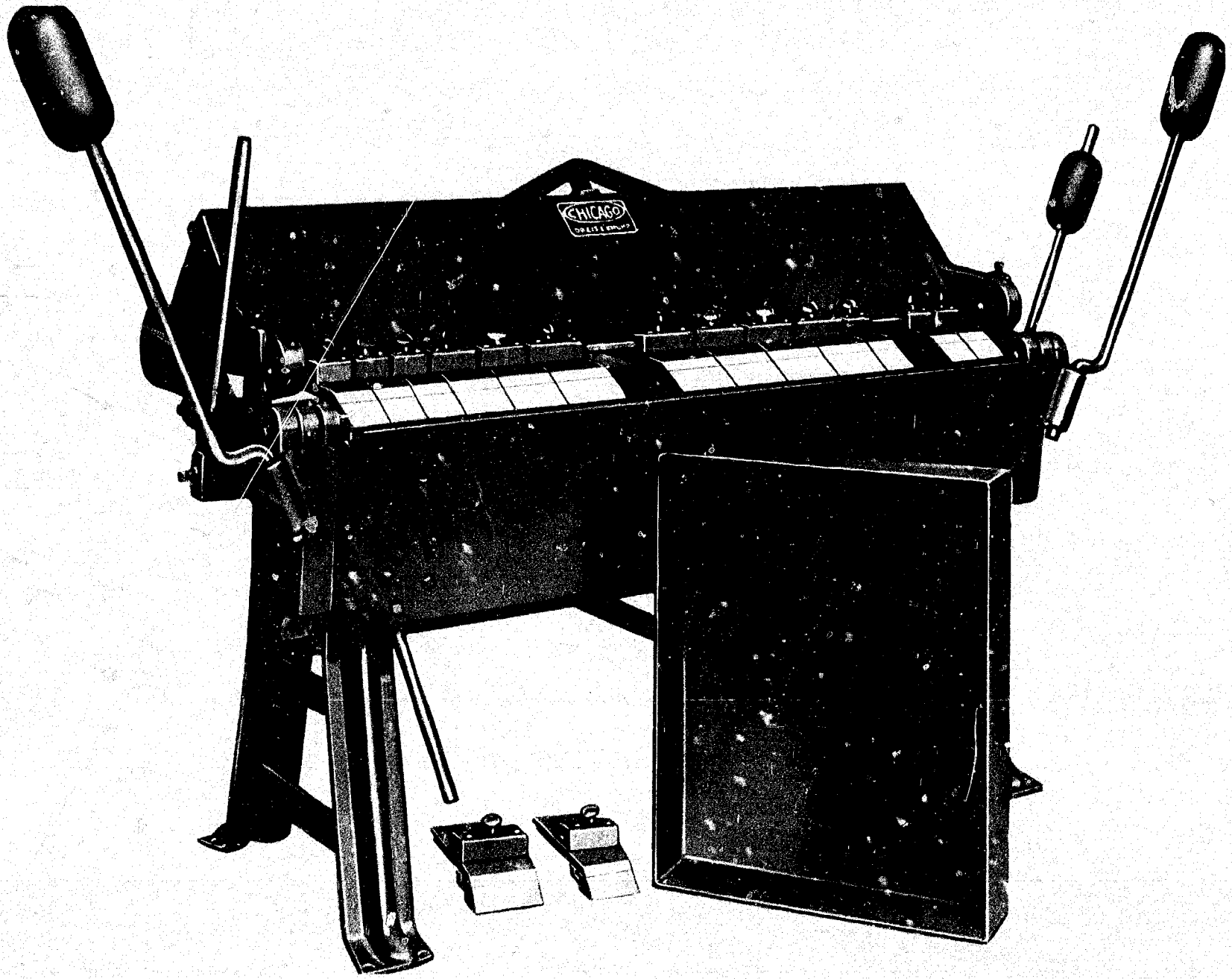


Figure 3. Universal Box and Pan Hand Brake

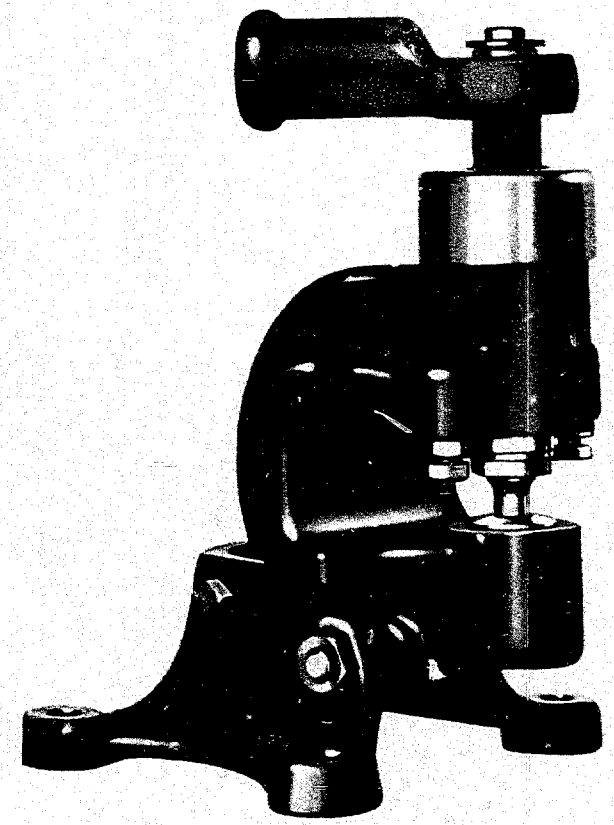


Figure 4. Hand Punch

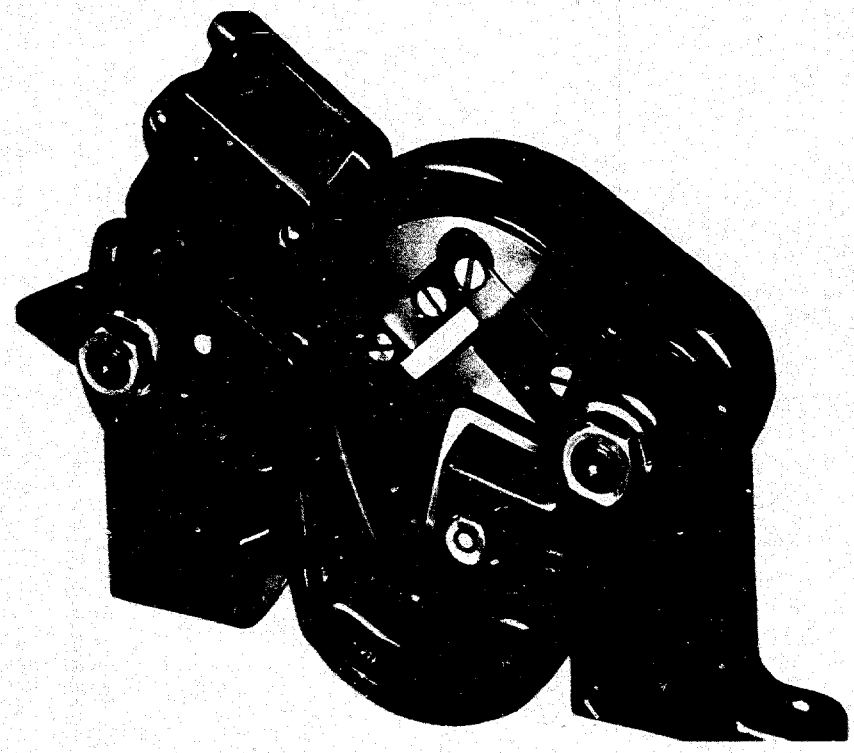


Figure 5. Angle-Iron Shear

Joining. Semi-finished materials and subassemblies may be joined by various methods, depending upon the bin configuration. These methods may consist of welding, riveting, drilling and bolting, or combinations of these. Handles, or other external hardware, are joined to the bin in the same manner.

Cleaning and finishing. Scale, rough spots, and other imperfections are removed from the completed bins by any suitable means, such as wire brushing, filing, grinding, etc. Oil and surface dirt is removed by either an organic solvent or by scrubbing with hot water and a detergent. To provide protection against corrosion, and to increase eye appeal, the bins are usually sprayed with a dark-colored enamel.

The equipment discussed in this report is capable of handling metal in a wide range of gage thicknesses, and can therefore be used to produce an increased variety of bin types as well as shelving, carts, benches, storage cabinets, and other metal articles.

In areas where cheap labor is available, many of the machining operations might be performed by hand labor with hand tools rather than the power tools list in this report. While this would decrease the capital outlay, production would be limited to the smaller, light-weight types of bins.

PLANT SITE

An area of approximately 5000 square feet will be required to accommodate the building and to allow for normal future expansion. It should be located as advantageously as possible with respect to transportation, power, water, fuel, sources of labor, and a substantial market for its finished products. The cost of the land is estimated at $500.

BUILDING

About 2000 square feet of floor space, which would be provided in a one-story building approximately 40 by 50 feet, will be required. The building may be constructed of cement block, sheet metal, or any fire-proof material. The cost of the building, including all utilities, is estimated at $8000. Figure 6 shows a proposed plant layout including suggested locations for equipment, receiving and shipping, offices etc.

POWER

The total connected power requirements for this plant are approximately 7.5 kilowatts per hour. The annual power cost is estimated at $200, based on 1.3 cents per kilowatt hour. Even in the United States, power costs vary considerably with locality.

WATER

The annual water requirements for production, sanitation, and fire protection are estimated at $100.

FUEL

Fuel is used for heating only and the annual requirement for oil or its equivalent is about 1000 gallons. The cost of this fuel is estimated at $100.

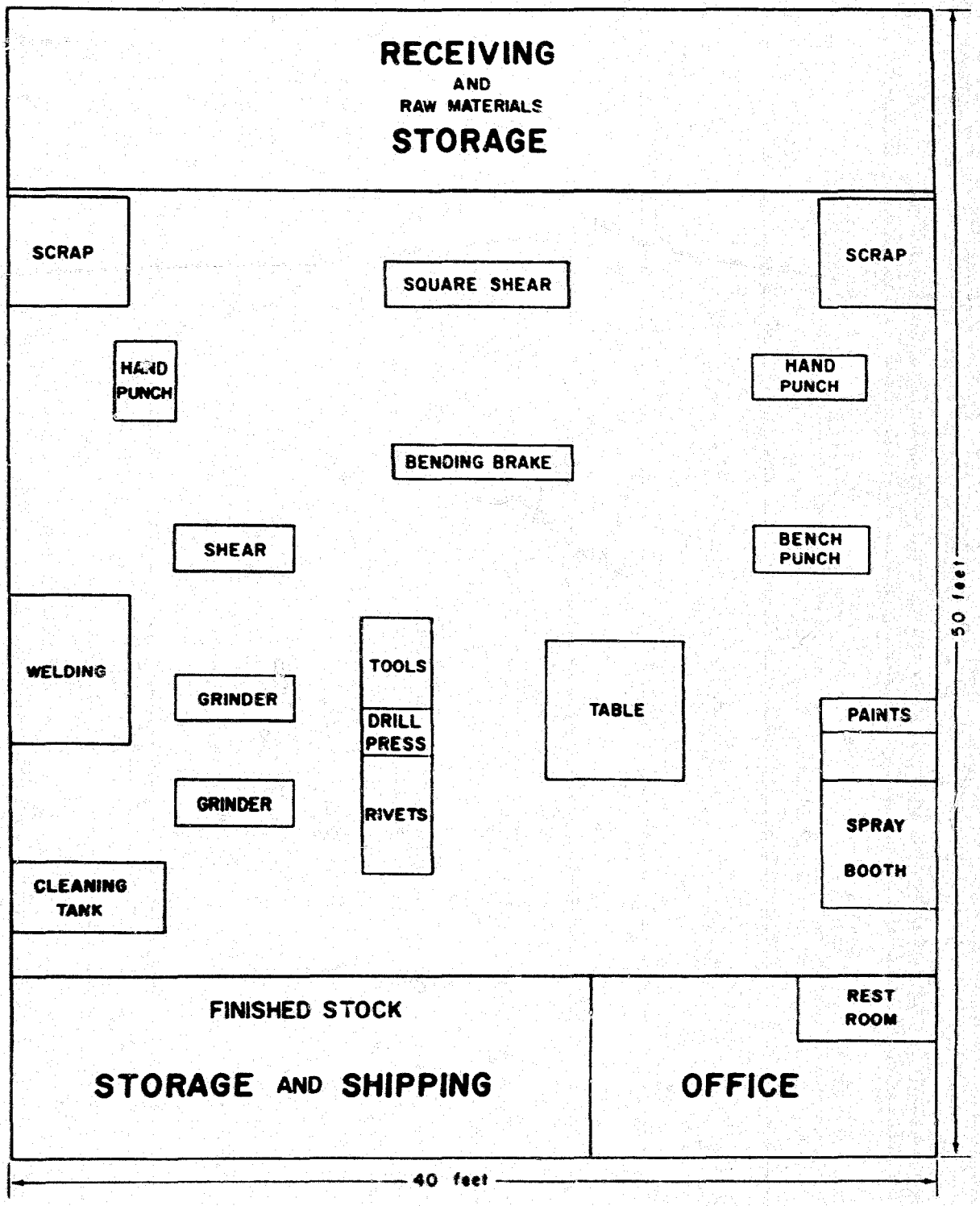


Figure 6. Proposed Plant Layout

DIRECT LABOR

Four workmen, as listed in the following table, are necessary to operate the manufacturing equipment; one skilled and experienced foreman, two semi-skilled mechanics, and one unskilled helper.

Occupation	Number Required	Hourly Rate	Annual Cost Estimated	Acutal
Foreman	1	$3.00	$ 6,240	
Mechanics	2	2.75	9,360	
Helper	1	1.25	2,600	
Totals	4		$ 18,200	

INDIRECT LABOR

Two people, as listed in the following table, are sufficient for the indirect labor force. The plant manager supervises the manufacturing work for optimum production, buys and sells, and keeps the books. A clerk does the receiving, shipping, and billing work.

Occupation	Number Required	Hourly Rate	Annual Cost Estimated	Actual
Plant Manager	1	$	$ 7,500	
Clerk	1	1.50	3,120	
Totals	2		$ 10,620	

DIRECT MATERIALS

Item	Unit	No. of Units	Unit Cost	Annual Costs Estimated	Annual Costs Actual
Sheet Metal	Pound	20,000	$ .08	$ 1,600	
Steel Wire	Pound	200	.25	50	
Metal Mesh	Pound	1,500	.10	150	
Angle Irons				250	
Rivets, bolts, nuts & washers				200	
Paint				250	
Total				$ 2,500	

SUPPLIES

Item	Annual Costs Estimated	Annual Costs Actual
Cleaning Supplies	$ 30	
Lubricants and Hand Tools	120	
Welding Rods and Gas	200	
Cutting Tools	300	
Maintenance and Repair Parts	850	
Office Supplies	250	
Total	$ 1,750	

PRODUCTION TOOLS AND EQUIPMENT

Description	Number Required	Estimated Cost Unit Cost	Estimated Cost Total Cost	Actual Cost
Power square shear, (capacity 6 feet up to 16 gage, motor, blades, boxed.)	1	$3,400	$3,400	
Hand Punch, (capacity 1/4" hole through 16 gage, punches, dies)	1	15	15	
Heavy-gage Hand Punch, (capacity 1/4" x 1/4", punches and dies)	1	55	55	
Universal Box and Pan Hand Brake (6 feet of 14 gage, boxed)	1	1,320	1,320	
Bench-type Punch for piercing angle irons, (capacity 1/2" x 1/2" with punches)	1	105	105	
Angle iron shear, (with sets of contour shear blades)	1	85	85	
Electric Arc Welder	1	250	250	
Oxyacetylene Welder	1	150	150	
Electric Hand Grinder	1	90	90	
Bench Grinder	1	125	125	
Drill Press, 15"	1	300	300	
Paint Sprayer	1	150	150	

Description	Number Required	Estimated Cost Unit Cost	Total Cost	Actual Cost
Cleaning Tank	1	$250	$ 250	
Boiler	1	500	500	
Total			$6,795	

Note: A hand-stroke belt sander (cost about $500) would speed up the burr-removal, sanding, and finishing operations.

FURNITURE AND FIXTURES

Description	Number Required	Unit Cost	Cost Estimated	Cost Actual
Executive Desk and chair	1	$125	$ 125	
Standard Desk and chair	1	100	100	
Typewriter and table	1	110	110	
Adding Machine	1	100	100	
Garment Rack	1	25	25	
File Cabinet	1	50	50	
Total			$ 510	

OTHER TOOLS AND EQUIPMENT

Description	Number Required	Unit Cost	Cost Estimated	Cost Actual
Hand Files, Hack-saws, Grinding Wheels etc.			$ 200	
Maintenance Shop Equipment			200	
Utility Platform Trucks, etc.			100	
Total			$ 500	

DEPRECIATION

Description	Estimated Cost	Years Life	Per Year Estimated	Per Year Actual
Building	$ 8,000	20	$ 400	
Production tools and equipment	6,795	10	679	
Other tools and equipment	500	10	51	
Furniture and fixtures	510	10	50	
Total			1,180	

MANUFACTURING OVERHEAD

Item	Cost	
	Estimated	Actual
Depreciation	$ 1,180	
Indirect labor	10,620	
Power	200	
Water	100	
Fuel	100	
Supplies	1,750	
Total	13,950	

MANUFACTURING COST

Item	Cost	
	Estimated	Actual
Direct materials	$ 2,500	
Direct labor	18,200	
Manufacturing overhead	13,950	
Total	34,650	

FIXED ASSETS

Item	Cost Estimated	Cost Actual
Land	$ 500	
Building	8,000	
Production tools and equipment	6,795	
Other tools and equipment	500	
Furniture and fixtures	510	
Total	16,305	

WORKING CAPITAL

Item	Cost Estimated	Cost Actual
Direct materials, 30 days	$ 208	
Direct labor, 30 days	1,517	
Manufacturing overhead, 30 days	1,162	
Reserve for sales collections, 30 days	113	
Total	3,000	

CAPITAL REQUIREMENTS

Item	Cost Estimated	Cost Actual
Fixed assets	16,305	
Working capital	3,000	
Total	19,305	

SALES REVENUE

The manufacturing cost of each storage unit is estimated at $11.50 and the selling price is estimated at $16.00 per unit.

The total annual sales revenue for 3000 units is estimated at $48,000.

RECAPITULATION OF COSTS, SALES AND PROFITS

Item	ANNUAL COSTS Estimated $	Total	Actual
Direct materials	2,500		
Direct labor	18,200		
Manufacturing overhead	13,950		
Total manufacturing costs		34,650	
Interest on loans	500		
Insurance	100		
Legal	100		
Auditing	100		
Unforeseen expense (bad debts, etc.)	550		
Total Administrative Costs		1,350	
Total Sales Costs *		2,000	
Profit before taxes		10,000	
Total		48,000	

* Includes Sales Commissions, Travel, Freight-out, Discounts and allowances, etc.

BUDGET CONTROL

A requisition form designed to provide accurate records of procurement and indicate the purpose of procurement with the least amount of time and effort is shown on page 22.

This form has an account number for each type of the various expenditures which the manager will review in detail, monthly or oftener, in order to control his expenses. Some items, such as power and water, are usually under contract and are easily checked by reference to monthly bills. For simplification, items (marked with an asterisk in the table on page 21) are omitted from the purchase requisition. Variations in the labor costs are easily reviewed by examination of the payroll vouchers. The simplified type of control thus provided makes certain that the manager can control expenditures promptly.

In addition to the requisition form, a sample voucher check is shown on page 23. Voucher checks should be used for the payment of all expenditures and the appropriate book account number placed on each voucher.

At the end of each month the manager will receive a statement of all expenditures broken down by budget accounts, as shown on page 21. If the expenditures exceed the budgeted monthly allowances of any of the accounts, the bookkeeper will furnish the manager with a breakdown of all expenditures relative to the budgeted accounts exceeded. All these supporting data can be secured by reference to the purchase requisitions and the check vouchers. This reference will enable the manager to determine what caused the over-expenditure and take corrective action.

If at any time during each month it becomes apparent that expenditures will exceed any of the budget accounts, the bookkeeper will bring this to the attention of the manager for his information and action.

BUDGET CONTROL ACCOUNTS

Account Number	Monthly Expense	Monthly Budget	Annual Budget	Actual
10 Administrative		$ 67	$ 800	
20 Sales		167	2,000	
30 Direct Materials		208	2,500	
40 Supplies		146	1,750	
51 Power *		16	200	
52 Water *		8	100	
53 Fuel		8	100	
60 Unforeseen Expense (Reserve Account)		46	550	
71 Direct Labor *		1,517	18,200	
72 Indirect Labor *		855	10,260	
80 Depreciation (Reserve Account)		99	1,180	
		$ 3,137	$ 37,590	

PURCHASE REQUISITION	COMPANY NAME	DATE

☐ 10 ADMINISTRATION ☐ 40 SUPPLIES

☐ 20 SALES ☐ 50 UTILITIES

☐ 30 MATERIALS ☐ 60 UNFORESEEN EXPENSE

INDICATE BELOW THE USE OF MATERIALS

☐ DIRECT MATERIALS ☐ MAINTENANCE SERVICES

☐ MAINTENANCE MATERIALS ☐ OPERATING SUPPLIES

	PLEASE ORDER THESE MATERIALS OR SERVICES	DELIVERY WANTED	
QUANTITY	DESCRIPTION	UNIT	TOTAL

QUOTES FROM		REQUISITIONED BY	
QUOTES FROM		APPROVED BY	
QUOTES FROM		ORDER NO.	ORDER DATE

R. W. MITCHELL MANUFACTURING COMPANY

1422 BOSWORTH STREET, S. E.

65-22
514

ANYWHERE, U. S. A. _____ 19___ No. 10000

PAY _____ DOLLARS $ _____

TO THE ORDER OF

R. W. MITCHELL MANUFACTURING COMPANY

TO FIRST NATIONAL BANK
ANYWHERE, U. S. A.

BY SAMPLE CHECK
VICE PRESIDENT

ACCOUNT NUMBER

Sample voucher check to be used for the payment of all expenditures in connection with Budget Control.

R. W. MITCHELL MANUFACTURING COMPANY

ENGINEERS

The services of professional engineers are desirable in the design of this plant, even though the proposed plant is small.

A correct design is one which provides the greatest economy in the investment of funds and establishes the basis of operation that will be most profitable in the beginning and will also be capable of expansion without expensive alteration.

The addresses of professional engineers who specialize in industrial design, some of whom may be willing to undertake such work on low cost projects overseas, can be secured by reference to the published cards in various engineering magazines. They may also be reached through their national organizations, one of which is the

National Society of Professional Engineers
2029 K Street, Northwest,
Washington 6, D.C.

Manufacturers of industrial equipment employ engineers familiar with the design and installation of their specialized products. These manufacturers are usually willing to give prospective customers the benefit of technical advice by those engineers in determining the suitability of their equipment in any proposed project.

The equipment manufacturers also know, and can recommend, professional engineers in private practice who are willing and able to provide appropriate consulting services.

TRAINING

Manufacturing an inferior quality of product during the training period could create sales resistance that might be difficult to cope with later. To avoid such possibilities, the quality of the product should be maintained at all times, including the training period.

In some areas skilled operators may be available locally. In other areas all the operators may have to be trained.

If skilled operators are not available, adequate training would be assured by using one or more of the following methods:

A. If the plant is designed and installed by a competent engineering firm, the contract should be negotiated, if possible, on a turn-key basis. On this basis the contractor agrees to operate the plant and produce the quality and quantity of the product stated in the contract for an agreed period of time. Such a contract would assure adequate personnel training, since full quantity and quality could not be produced with an untrained organization.

B. The engineering firm that designs and installs the plant can usually make training arrangements to have key personnel placed, for training purposes, in a foreign industry that produces the same type of product. This would provide training for the key personnel while the plant is being installed.

C. If neither of the above methods is possible, then qualified and experienced individuals should be employed for the key positions, either permanently or temporarily, to perform the key operations and assist in training the organization, even if they must be secured outside the country.

D. The manager should have years of successful experience in this type of business and be fully qualified in all phases of management, including the training of employees.

SAFETY

There is always danger of accident and injury in any industrial plant. Because of this, the manager should take specific action to bring to the attention of each employee the importance of safety precautions and intelligent first aid.

Practically all machines have safety appliances, and the manager should see that these are in good working condition and that the operators are making full use of them.

In addition to constant watchfulness to make sure that all practicable safety precautions are taken, first aid supplies should be readily available. One complete first aid kit should be maintained near the manager's office, and others at appropriate places throughout the plant. Some of the employees should be trained to provide first aid service.

The use of accident posters in the plant have proved to be of value in reducing accidents. It is recommended that such posters be used, and that some direct special action be taken by the manager, at least once each month, to bring to the attention of all personnel the importance of safety precautions.

A fire brigade should be established and each member trained as to his responsibility in case of fire. Fire drills should be conducted periodically.

It is recommended that the employees be encouraged to offer suggestions or recommendations relative to prevention of accidents, removal of fire hazards and maintaining general interest in all safety factors.

SUMMARY

A small plant, built and operated according to the assumptions made in this report would be a profitable undertaking.

Provision is made for inserting local cost in connection with all cost figures shown in this report. A careful analysis should be made of all cost figures to determine the local potential profits in any location where such a plant is being considered.

There are some determinations, however, that should be made before a decision is reached to build and operate such a plant.

For example, what are the possibilities of future expansion within the country for this industry?

What other products could be manufactured with the machinery and equipment specified in this report?

Is there a market for such additional products?

How does this industry compare with other industries that may be needed in the country relative to the following factors:

1. The economic value to the country.

2. The needs of the majority of the people.

3. The amount of investment capital required.

Consideration should also be given to such factors as :

The amount of power required and the availability of a dependable supply. If an adequate supply is not available the installation of power equipment may be required.

The water requirements for all purposes including fire protection and potable water for drinking purposes.

The fuel requirements and availability. If local fuel can be used the boiler should be adaptable to such fuel.

The transportation facilities to and from the plant. If they are not adequate an investment in trucks may be required.

OTHER CONSIDERATIONS

There are other important subjects, shown below, that should be fully investigated and considered. Information on these subjects is usually available from such sources as banks, government agencies, exporters and importers, wholesalers, retailers, transportation companies and manufacturers.

MATERIALS AND SUPPLIES

1. Are all materials and supplies available locally?
2. Is the local material market competitive?
3. Is satisfactory delivery of local materials assured at reasonable prices?
4. What materials and supplies must be imported?
5. Are they available in world markets at competitive prices?
6. Would prompt delivery of imported materials and supplies be assured so that large inventories would not be required?

MARKET FACTORS

1. Is there already a demand for the product?
    - A. Who are the principal consumers?
    - B. Who are possible new consumers?

2. How is demand for the product now satisfied?
    - A. By local production? If so, what is the volume of annual production?
    - B. What percentage of consumption is filled by local production?
    - C. By imports? If so, what is the volume of annual imports?
    - D. What percentage of consumption is met by imports?
    - E. From what areas are imports derived?

3. What is the estimated annual increase in local consumption over the next five years?
    - A. How were such estimates made?
    - B. By reference to official figures on population growth, family budgets, imports, etc.?
    - C. By consultation with trade or industry, ministries, associations, bankers, commercial houses, wholesalers, retailers, industrial consumers, etc.?

4. If the product is already being manufactured, can the existing and estimated future local market absorb production of the new plant without price-cutting or other dislocations?

5. Would the estimated sales price and quality of the new product make it competitive with an imported equivalent?
    A. After adjusting cost to local conditions, is the estimated sales price of the product so high that tariff protection is necessary to protect it from imports?

EXPORT MARKETS

1. Could the product compete in export markets on the basis of price, quality and dependability of supply?
2. Can export markets for the product be developed?
3. If so, in what areas and in what annual volume?
4. What procedures would be necessary to develop export markets?
5. What would it cost?

MARKETING PROBLEMS

1. In calculating costs of the product, has adequate allowance been made for the expense of a sales department, advertising and promotion that might be required?

2. Do consumer prejudices against locally manufactured products exist?
    A. If so, why?
    B. Would they apply to the new product?
    C. If so, how could they be overcome and what would it cost to do so?

3. Do marketing and distribution facilities for the product exist?
    A. If not, can they be set up?
    B. What would it cost to do so?

4. Will the product be sold to:
    A. Wholesalers?
    B. Retailers?
    C. Direct to consumer?
    D. Other industries?
    E. Government?

FINANCIAL FACTORS

1. Technical advice on selection of machinery and equipment.
   - A. In selecting the machinery and equipment for the new plant, have reputable and competent engineers and technicians been consulted?
   - B. Have they been asked for advice on the most suitable types of machinery and equipment for the process and locality?
   - C. Have they carefully compared costs of various suppliers?
   - D. Credit terms offered purchasers?

FINANCIAL REQUIREMENTS OF THE PROJECT

1. In estimating the cost of the project, has careful consideration been given to:
   - A. The effect on costs of delays in construction schedules?
   - B. In delivery and installation of machinery and equipment?
   - C. In import of essential raw materials and supplies?

2. In calculating cash flow and working capital requirements, has careful consideration been given to:
   - A. Maintaining adequate inventories of raw materials?
   - B. Supplies and spare parts?
   - C. Seasonal fluctuations in the business?
   - D. The time required to liquidate credit sales to customers and bad debts?
   - E. The period necessary to get the plant into production?
   - F. Cash required to amortize its principle loans?

3. If the economy is in a period of inflation, has full allowance been made for the influence of rising prices and wages on the cost of the project and on working capital requirements?

SHORT TERM BANK CREDITS

1. Has it been possible to make arrangements with local banks to finance short-time working capital requirements of the business?

FINANCIAL PLAN

1. Has a definite plan to finance the project been worked out?
   - A. Is sufficient capital available locally?
   - B. If not, what is the plan to obtain the required capital?

ECONOMIC FACTORS

1. How much foreign exchange (and in what currency) is required to import machinery, equipment and supplies:
   - A. How much foreign exchange (and in what currency) is required for annual interest payments and amortization of any loans contracted to import machinery and equipment, or for payment of royalties and technical services?
   - B. How much foreign exchange (and in what currency) is required for annual import of raw materials and supplies?
   - C. What are estimated annual foreign exchange earnings and in what currencies?
   - D. Has careful consideration been given to the possibility of depreciation in the foreign exchange value of the local currency?
   - E. Has careful consideration been given to the possibility of import controls, or restrictions on availabilities of foreign exchange necessary to operate the business?
   - F. What benefits would the new business bring to the economy in the use of local raw materials: in employment and in technology?
   - G. Do dependable facilities exist for transportation, power, fuel, water and sewage?
     - (1) If not, can existing deficiencies be eliminated satisfactorily?
     - (2) What would be the cost to do so?

PERSONNEL

1. Is there an adequate labor supply near the plant location?
   - A. If not, how can the problem be solved?

2. Can the problem of training competent management and supervisory personnel be solved?
   - A. Also, the training of skilled labor?
   - B. Is technical advice available in the locality?
   - C. If not, where can it be obtained and what will it cost?

LAWS AND REGULATIONS

1. Do existing labor laws, government regulations, laws and taxes favor establishment of new business?
   - A. If not, can existing obstacles be removed?
   - B. If so, how and when?

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