

SPECIAL STUDY

LIBRARY FURNITURE

THESIS FOR B. ARCH.

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The furniture dealt with in this study is restricted to such library equipment as is mainly found in the public areas, i.e. shelving for books, periodicals and newspapers; catalogue furniture, display furniture, study and reference tables.

A. INTRODUCTION:

In the general research it was stated that in recent years library planning and operation has undergone rapid and progressive changes, all in the interest of rendering better service to the public.

These changes have obviously also affected library furniture, although not to the same extent yet. When looking at the furniture of some existing libraries, or paging through some manufacturers catalogues, it is surprising to see how much ugliness still survives in many items, specially designed for libraries. Fortunately the graceful lines of mainly Scandinavian and German furniture are making their influence felt. It can be assumed that in a few years time, libraries will be furnished quite differently from the practice prevailing today; the difference being in type as well as arrangement of furniture.

The importance of library furniture as regards its design, construction, and lay-out, must not be underestimated. A beautifully and efficiently designed library with inefficient furniture cannot be successful.

Appearance and utility are not incompatible. Library furniture should combine beauty and grace with functional efficiency and sturdy construction. The objective is to make things as comfortable and pleasant for the reader as possible, while at the same time, keeping in mind requirements such as economy, maintenance and flexibility.

B. MATERIALS:

Until recently all library furniture used to be of solid wood construction with the exception of the closed-stack shelving, which was entirely of steel.

Recent trends are to create more gay and light-weight designs through the use of steel or aluminium for furniture in public areas. Metal has a number of advantages over timber, i.e.:-

- a. Reduction of fire risk.
- b. Strength-bulk ratio, i.e. greatest capacity with least space.
- c. Standardisation-economy of cost of assembly, maintenance, as well as initial production.
- d. Freedom of vermin attack.
- e. Elimination of warp and splinter, and replacement costs are reduced.
- f. Adaptability and ease of adjustment.
- g. Wide colour range.

In spite of this impressive list of advantages, timber has not been eliminated entirely. The atmosphere obtained by steel furniture, even if of very much higher quality than ordinary stackroom furniture, has little of the 'warm' feeling of timber.

With the introduction of various composite timbers, some of the disadvantages of natural timber have been eliminated. Thus we find that timber is still used extensively but now often in combination with metal, e.g. steel or aluminium frame-work with timber shelving or table tops.

Ladder type book-case.

Supporting metal tubes fixed to  
floor and ceiling.

Timber shelves.



More attention is being paid to the finish of certain furniture. Table tops or work tops are often covered with some form of protective and replacable material like linoleum. Table and chair legs, if of timber, are protected with metal ferrules at the floor, and are usually equipped with adjustable 'non-marring' glides. Where metal is used, the application of colour is given more attention to achieve a gayer atmosphere and to blend with the overall colour-scheme of the library.

### C. SHELVING

The major part of the furniture in a library consists of shelving, which should thus be given special attention.

Choice of shelving is determined by the following two factors:-

- a. The requirements of a flexible lay-out.
- b. Ease of adjustability of individual components.

Book-shelving consists of two major types: Free-standing and wall-mounted.

a. Free-standing shelving:-

This can again be divided into three main groups:

- (i) The straight-forward box type book-case with solid supports - metal or timber.
- (ii) The open type with rails or columns as side supports. Shelves are simply placed on metal sections suspended from the supports or suitably drilled and positioned on round iron bars.
- (iii) The frame type in which the broad side support of the box type book-case is replaced by a frame which in most cases is metal, steel or aluminium, round or square in section, tubular or solid.

The latter seems to be the most popular at present. Various variations of the above three groups are available, as can be seen from the photographs and sketches.

b. Wall-mounted shelves:-

Shelves are usually fixed to brackets which are supported by standard slotted rails mounted to the wall. Various types of these are available on the market. This is <sup>a</sup> rather 'cheap' method allowing no flexibility.

Where more movability is desired, frame type or open book-cases of the types mentioned before or adaptations thereof are often used. They are placed against the wall to which they are provisionally fastened.

c. Shelving dimensions:-

Modern practice is to mount the book-case so that the reader need not bend down too much to reach the bottom shelf and need not struggle to reach the top shelf. For this reason only five shelves are provided instead of the former seven, with the bottom shelf about 18" - 20" off the ground.

78" above the floor is as high as the average adult can reach and read comfortably. Where books are continuously used, e.g. fiction, the top shelf should not be more than 60" above ground. A total height of 84" is usually considered as the maximum for any book shelf.

Depth of shelves varies from 8" to 12". Where double faced shelving with no partition is used, some flexibility of depth can be achieved.

Height varies from 9" to 15". All shelving must thus be adjustable, supported at one inch intervals.

In children's libraries book-cases have only three to four shelves, the bottom shelf being about 12" from the floor. Shelf spacing from 10" to 12" with a total height of 42" for easier supervision.

Bottom shelves are generally fixed at a gentle slope ( $12^\circ$ ) so that titles can be more easily read.

Spacing of vertical supports should always be at 3'0", this being accepted dimensions for shelf or book-case units.

Spacing of ranges depends entirely on the space available and comfort standards to be achieved. General practice is to have double faced ranges, 16" to 24" wide at 5'6" to 6'6" centres. This is sufficient to allow patrons to consult books and to pass each other.

d. Book-supports:-

When shelves are not fully loaded, use of book supports is found necessary. These can be of wire

Example of free-standing 'open-  
type' metal shelving and study tables.

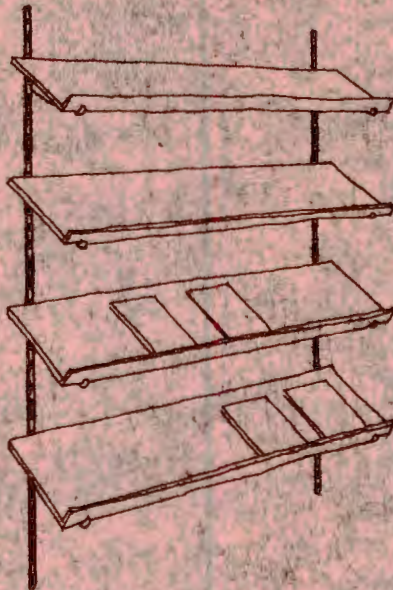


Frame-type double-faced book-case,  
shelves mounted together with rear  
wall, bottom and side board. All  
shelves sloped. Considerable space  
required. Metal frame-timber shelves.

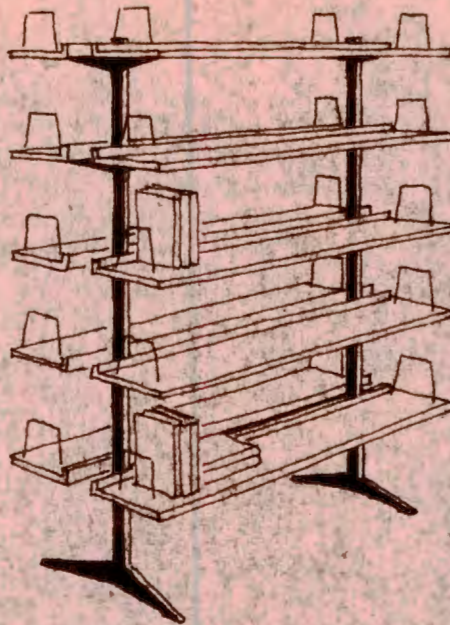




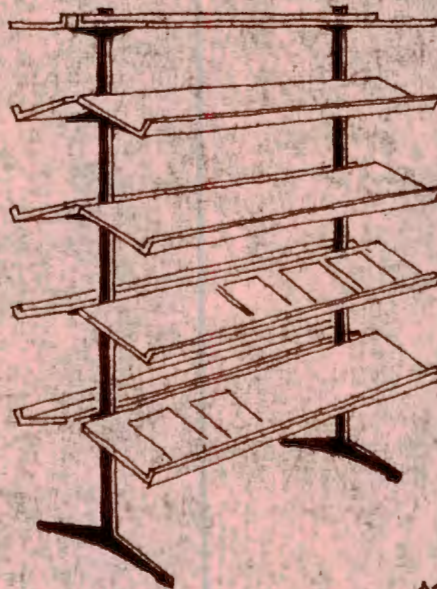
WALL-MOUNTED SHELVES, ADJUSTABLE  
TIMBER SHELVES ON BRACKETS FIXED  
TO METAL WALL-SUPPORTS



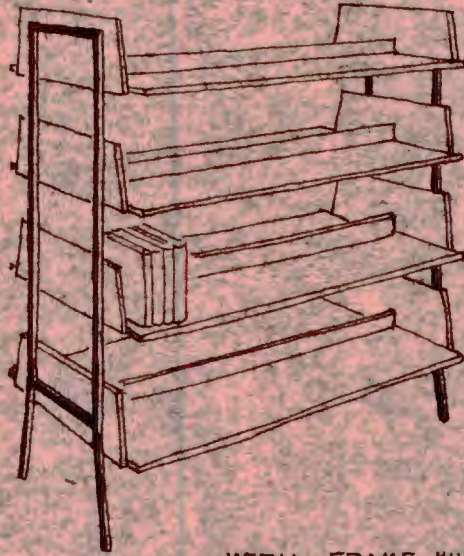
AS ABOVE WITH SLOPED SHELVES



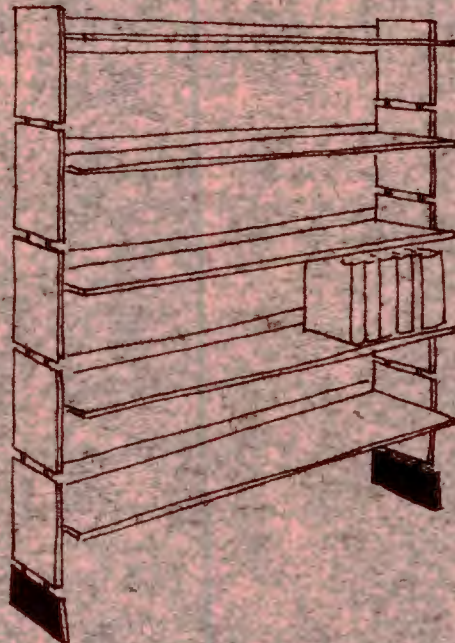
FREE-STANDING SHELVES  
CENTRAL METAL STANDS  
TIMBER SHELVES ON METAL  
BRACKETS PERMANENTLY  
FIXED TO FRAME  
CROSS-BRACING TO FRAME



AS ABOVE WITH SLOPED  
SHELVES USED FOR  
PERIODICAL OR BOOK  
DISPLAY



METAL-FRAME WITH FIXED TIMBER-SHELVES AND TIMBER END SUPPORTS



ALL TIMBER RACK, CONSISTING OF DEMOUNTABLE SHELVES

or flat metal construction and should be easily adjustable and removable. An alternative is a plate type of book support with label holder incorporated.

#### D. SHELVES FOR PERIODICAL DISPLAY

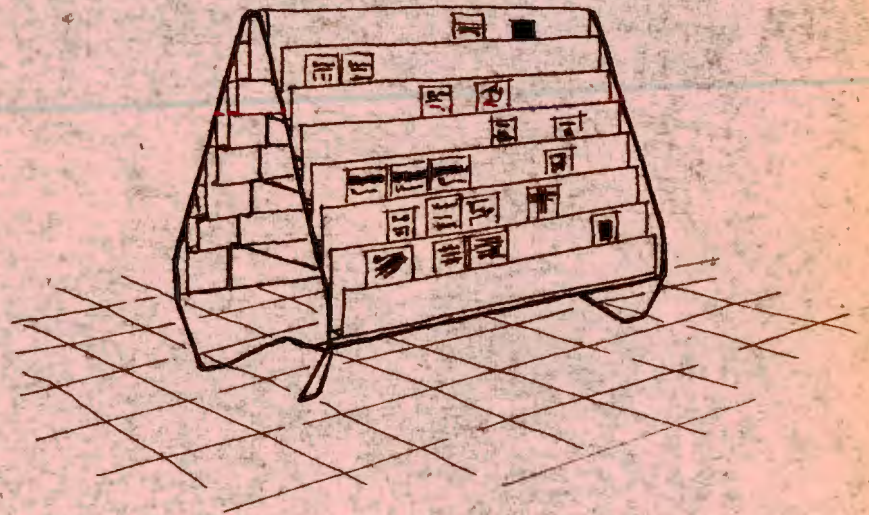
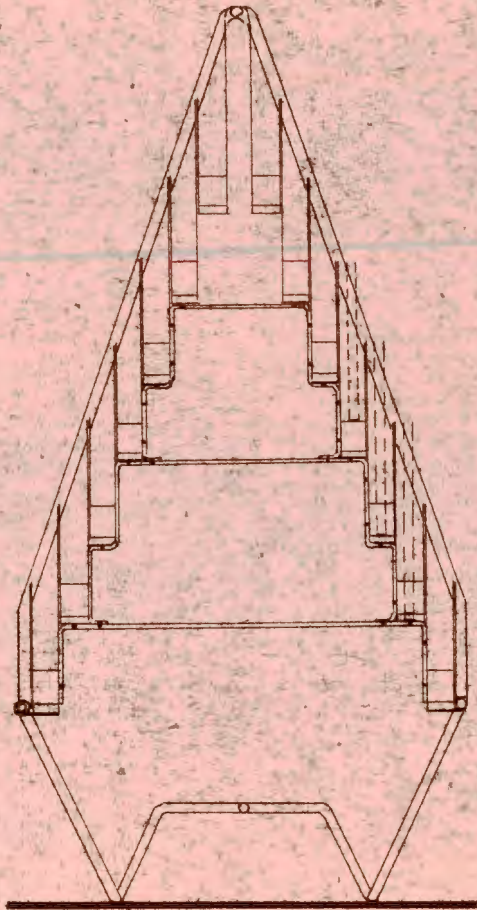
As is the case with book-racks, a lighter frame-type rack has been developed for periodicals in place of the old box-type rack. In a public library a periodical rack must give good view and display of new material on hand. (Older periodicals are bound and stored on ordinary racks.)

Racks, where periodicals are displayed horizontally, are generally only found in large scientific reading rooms. For this type of rack all the designs developed for book-cases can be used. A shelf height of 2-3" is generally used to accommodate as many periodicals as possible. This has to be inclosed if the whole year's editions are left for display.

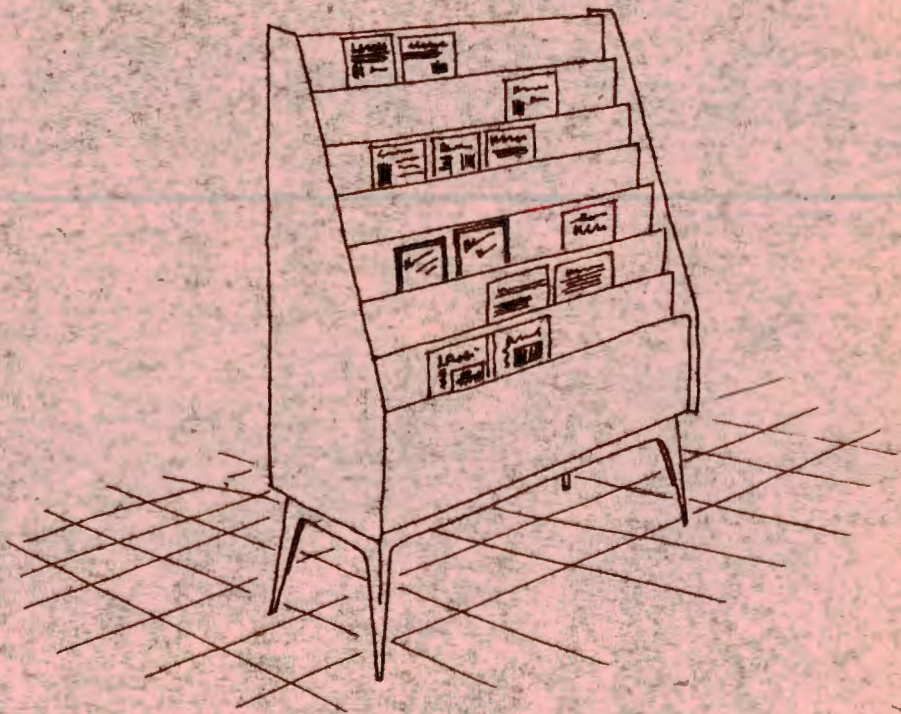
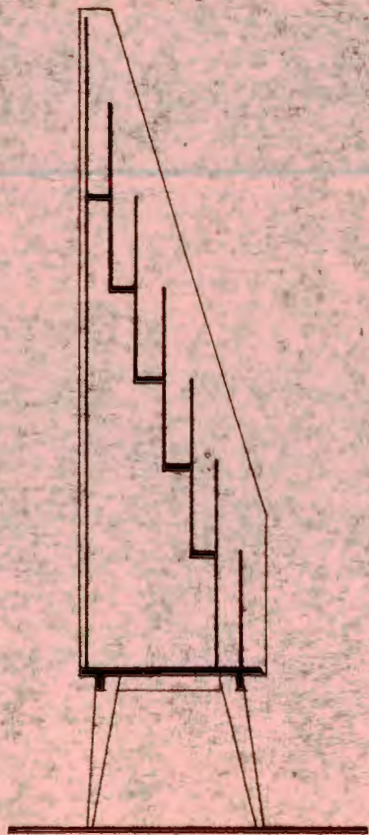
For vertical display periodicals are generally in cases side by side, leaving the title clearly visible. These cases are arranged vertically above

Periodical display on sloping glass  
holders fitted at right angles to  
the wall.





DOUBLE FACED FREE-STANDING RACK;  
VERTICAL DISPLAY; CASES ARRANGED  
STEPWISE; FRONT END LOWER;  
FRAME-TYPE CONSTRUCTION  
SEVEN SHELVES



WALL-MOUNTED RACK; VERTICAL DISPLAY;  
CASES ARRANGED STEPWISE; BOX TYPE;  
FRONT END OF CASES SOMEWHAT LOWER  
THAN REAR; SIX SHELVES

each other, secured to the wall (depth of case  $1\frac{1}{2}$ " ) or they can be arranged stepwise rising to the rear.

Oblique display is used when the whole of each periodical is to be displayed. Various systems have been developed. Shelves are not horizontal but are given a slope of  $45^\circ$  to  $75^\circ$ , either fixed or adjustable. General practice is to provide a horizontal shelf about 2" below every sloping shelf to accommodate older numbers, or a cupboard below the display shelf.

Dimensions:-

Display of four periodicals side by side generally requires about 3'3". To allow large size periodicals to be displayed, shelves must be  $1\frac{1}{2}$ " deep. Total shelf height depends on how periodicals are to be displayed, vertically, horizontally or obliquely. The same comfort standards as for book shelves apply.

E. PICTURE- BOOK-RACKS

Most types of periodical display racks can be used for this purpose, adapted to the size of its users (as children's book racks.) The oblique type

Display of pictures and picture  
books in a children's library.



is most suitable.

Combinations of vertical and oblique racks with horizontal shelves, where some of the books are stored in normal shelves, are often used.

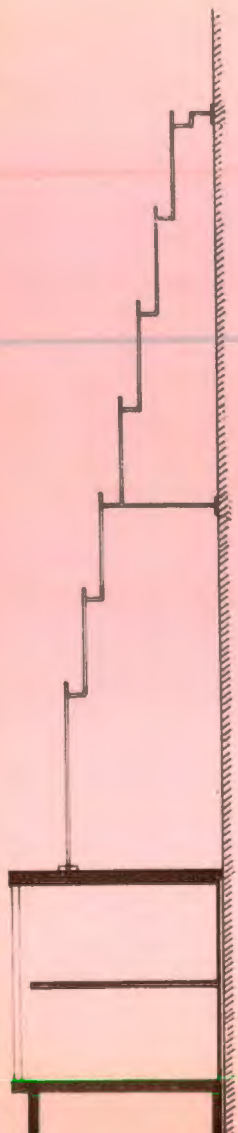
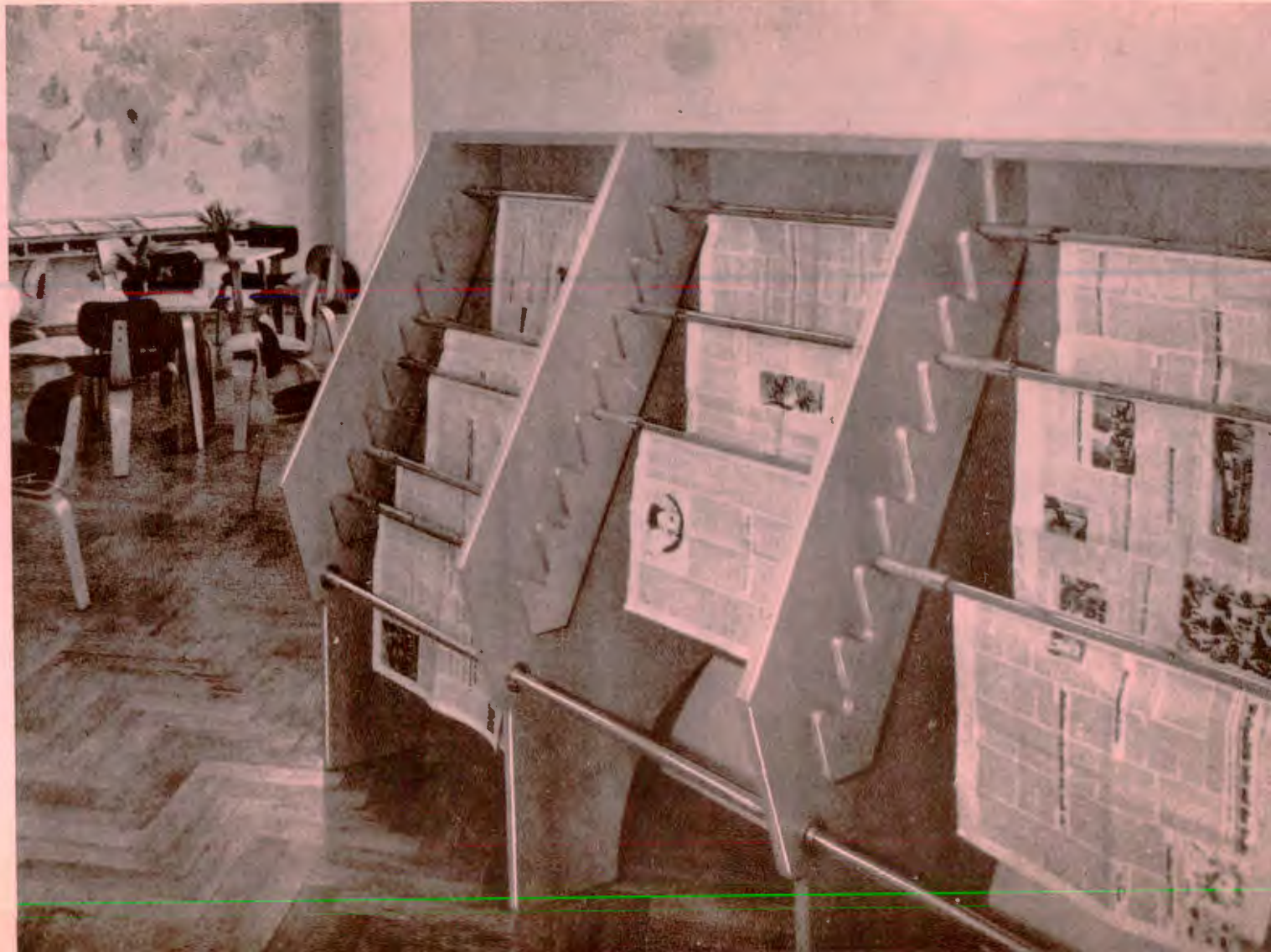
Another interesting fitting is the book trough, which can be placed in the room where desired. Usually divided into four compartments, with maximum height of 20".

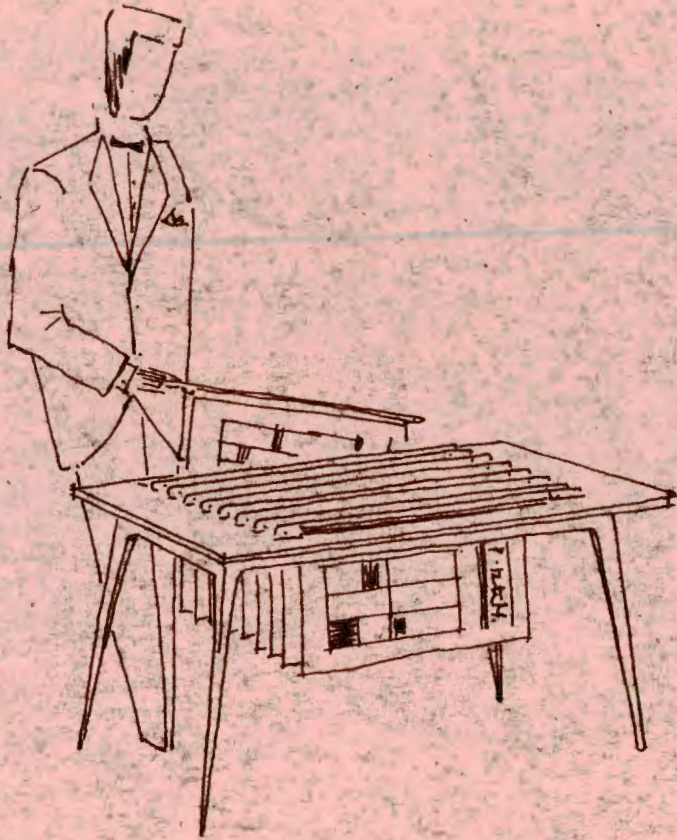
#### F. NEWSPAPER RACKS

The usual practice in libraries is to give the reader the newspaper clamped into a newspaper stick. This makes it more difficult to remove the paper or parts of it and storing is simplified. Storing racks are either free-standing (26" wide, 36" long, 30" high) or wall-mounted.

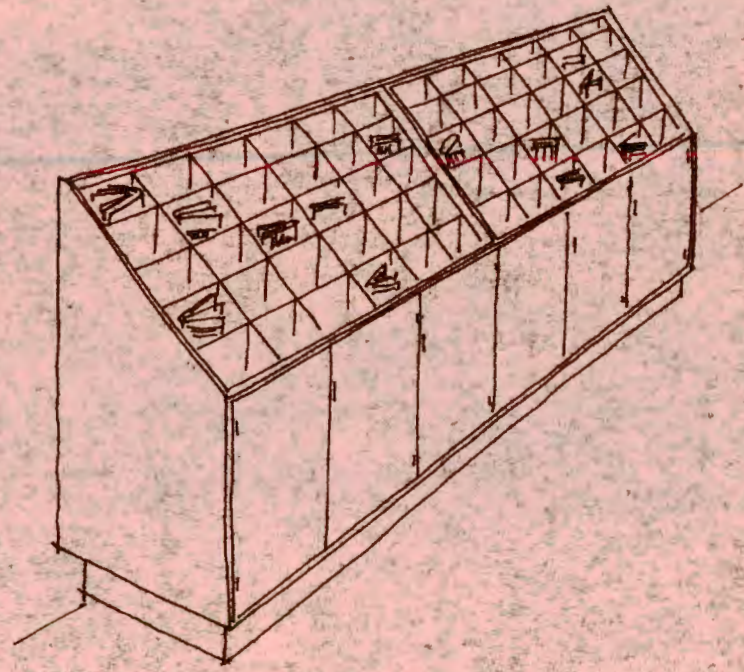
It is felt by some people that the stick method is impractical and uncomfortable for the reader. Other possibilities are to store papers folded in troughs (30" high) or to have them on slip<sup>o</sup>ping tables, fastened to a clamping rod. In this case the reader has to stand; a method widely used in public libraries.

Two examples of newspaper racks.  
Photo shows wall-mounted rack of  
box type construction. Parallel  
and obliquely mounted saw-tooth racks.  
Section shows wall-mounted rack  
built from bent and suitably arranged  
iron rods mounted on a cupboard  
containing old newspapers, and fixed  
to wall-mounted rails.





FREE-STANDING TABLE WITH CUT-OUT TOP FROM WHICH NEWSPAPERS ARE SUSPENDED



WALL-MOUNTED RACK OF BOX-TYPE CONSTR. EQUIPPED WITH STEPPED CASES INTO WHICH FOLDED PAPERS ARE LOOSELY INSERTED

Bound newspaper volumes and heavy folios should not stand erect because of the stress on the backing but should have metal roller shelves, 19" to 23" deep and 12" high.

G. DISPLAY FURNITURE

Every library endeavours to stress certain points of its work and systematically draws the attention of its users to certain important books or groups of books.

New books are regularly advertised by lists and bookjackets pinned on boards. Books are often displayed with pictures and other selected material (from museums, etc.).

For this type of furniture a large variety of designs is available and the architect has every latitude in developing interesting design, e.g. :-

- Book trays combined with display panels
- Racks with display panels
- Periodical racks with inclined shelves
- Suitable display book trolleys.

The old 'glass cage' type of display fitting is still in use, especially when valuable material

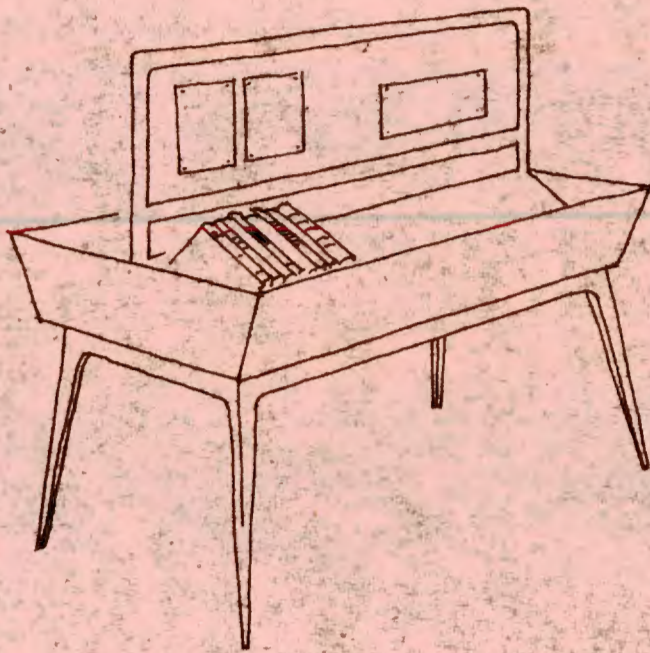
Free-standing book-case, single-faced,  
with a perforated board for display  
purposes.

Considerable space is wasted, and no  
reason for not being double faced.

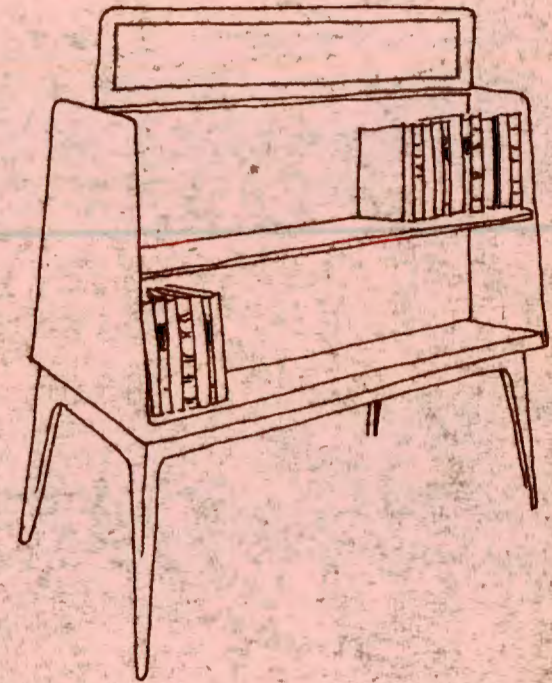


Informal Danish furniture arrangement  
in a reading room. Well-mounted  
adjustable display shelves with  
storage cupboards below.  
Table-tops in mosaic.

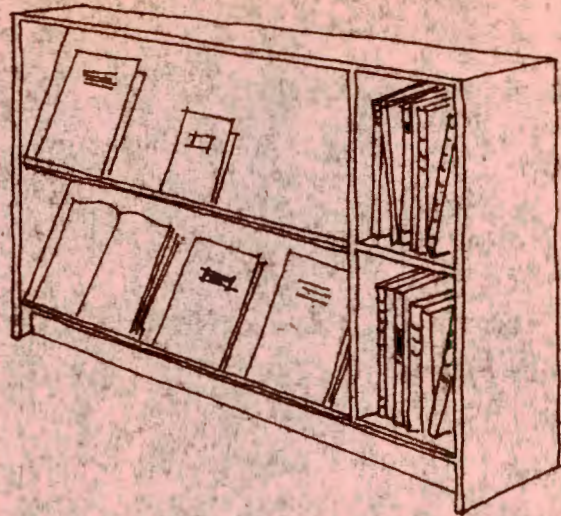




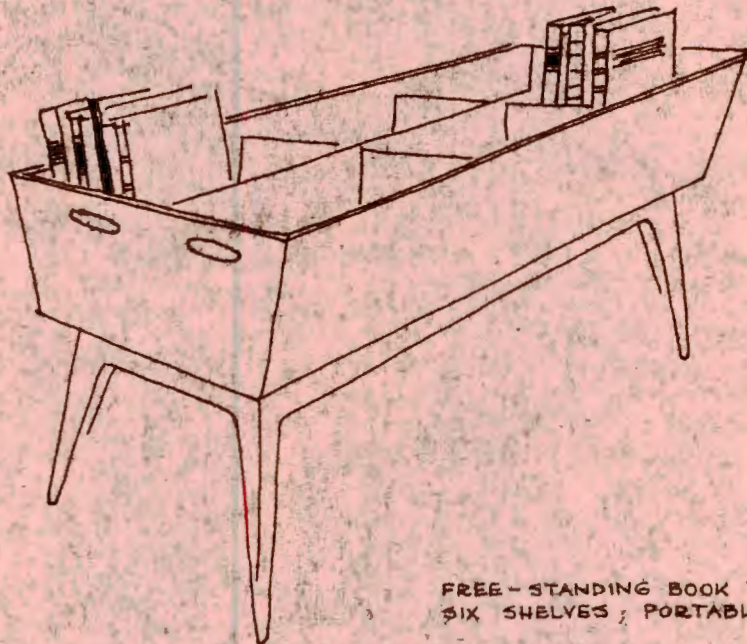
FREE-STANDING DOUBLE-FACED BOOK TROUGH  
COMBINED WITH DISPLAY BOARD. TROUGH WITH  
ONE WIDE AND ONE NARROW INCLINED SHELF



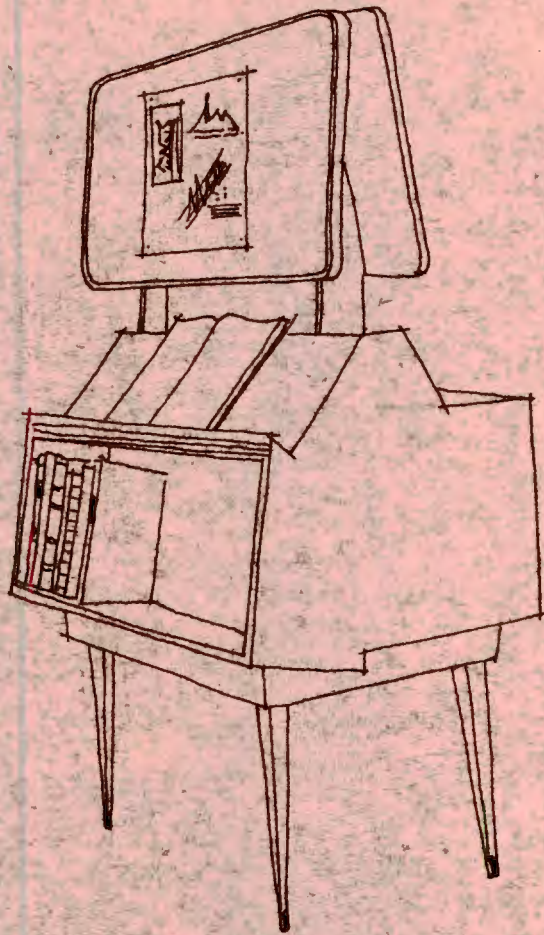
FREE-STANDING SMALL BOOKCASE, ONE-  
SIDED, COMBINED WITH DISPLAY BOARD



WALL-MOUNTED RACK OF BOX-TYPE  
CONSTRUCTION, OBLIQUE DISPLAY  
WITH HORIZONTAL SHELVES FOR  
LARGE-SIZE BOOKS



FREE-STANDING BOOK TROUGH  
SIX SHELVES; PORTABLE



FREE-STANDING BOOKCASE COMBINED WITH  
DISPLAY AREA AND BOARD (ON THE REAR PANEL  
CATALOGUE BOXES AND A SECOND DISPLAY  
BOARD, A SOMEWHAT COMPLEX COMBINATION

is on display.

No set dimensions can be given. These depend on the various combinations and general comfort standards as regards height, etc.

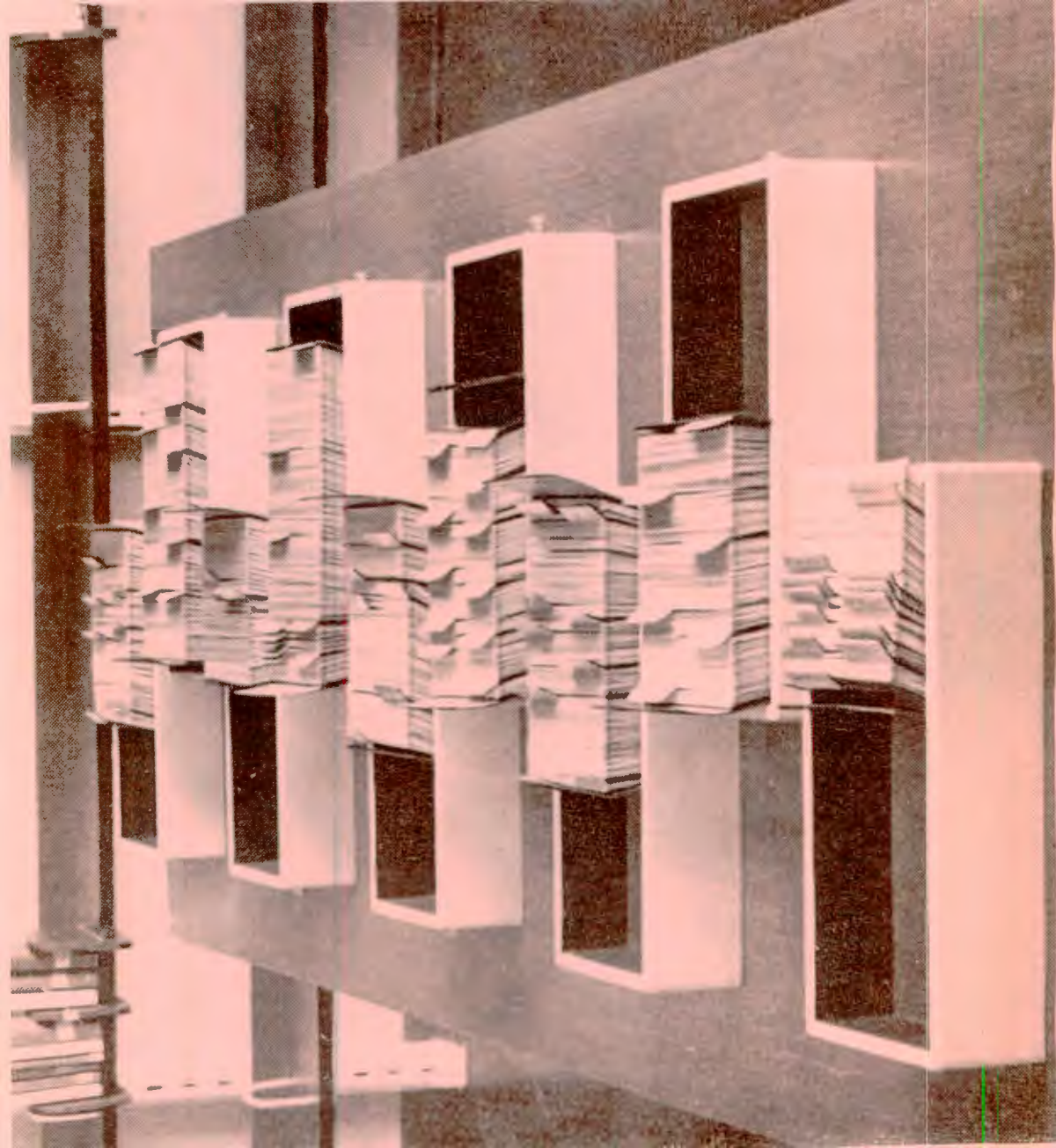
#### H. CATALOGUE CABINETS

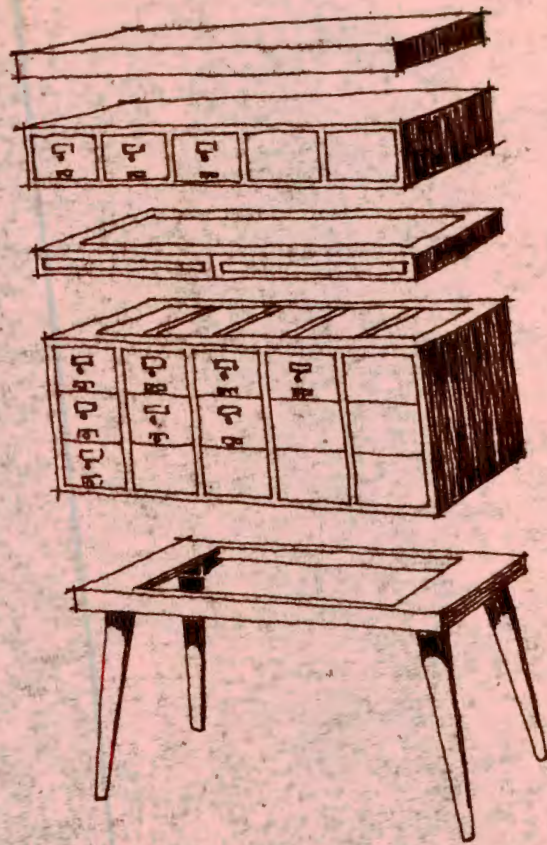
Catalogue equipment is universally standardised as far as card trays are concerned. This is based on a card size of 3" x 5" (7.5 cm x 12.5 cm). Card trays of 18" x 6" x 3½" high accommodate 800 - 1,000 cards. They are used either separately or in units. The unit is usually a low table (24" high) or if writing facilities are to be provided as well, on a higher table (33" high).

Units are either so arranged that from either side of the table a row of trays is accessible, or on a shelf only from one side accessible. There is no real limit to the number of units in a row.

For small specialised catalogues, the trays are often open at the top and placed on the table with gaps inbetween to allow for taking notes.

Free standing table with small screwed-on blocks on to which open catalogue boxes are placed so as to be easily removable. They cannot be displaced sideways, can be used from either side. Sufficient space for making notes is left between boxes.





LARGE CATALOGUE MOUNTED ON A BASE  
FRAME, WITH PULL-OUT EXTENSION AND COVER

## I. CHAIRS AND TABLES FOR READING AND STUDYING

The monotony of reading and study areas of the old public library, with its dull furniture and requisented lay-out of long <sup>e</sup>ading tables is no longer found to be satisfactory. The modern trend is to introduce more informality, both in type of furniture and lay-out. Enticing, adequate chairs and tables, tending towards the luxurious are needed. Colour can be introduced by the choice of plastic upholstery, and linoleum, mosaic or other coloured finishes to table tops. A large variety of these are available on the market and it is up to the architect to make an appropriate selection.

The lay-out should be informal. Long reading tables are unpopular. Tables for a maximum of four persons should be used.

Special types of tables have been developed, mainly for reference readers, e.g.:-

Double tables with sloping tops where the reader stands ( for maps and other large materials)  
Study tables with shelves mounted on top  
Book cases with adjustable table - shelves, etc.

Large study table with several seats.  
Bookshelf mounted loosely on table  
top.



Bibliography shelf with adjustable  
table shelf. Full height shelving  
on other side.



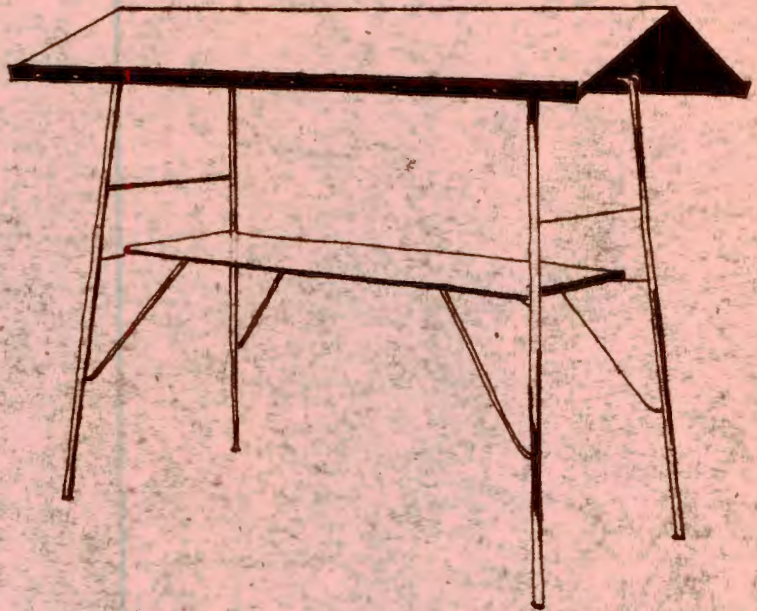
Double table with well separated opposite seating. Convenient for reading big books. Can be adapted for adult use.



Children's Section in the Public  
Library of Cincinnati, with simple  
bookcases of novel design, making  
selection of books easy.

Examples of sloping desks for pi-  
ture books.





LARGE DOUBLE-SIDED TABLE TO STUDY  
LARGE-SIZE WORKS; READER STANDS

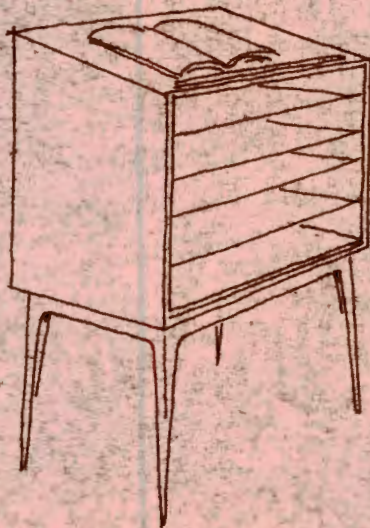


TABLE TO LOOK UP ATLASES,  
READER STANDS, WITH SHELVES  
TO ACCOMMODATE SMALL  
COLLECTION OF ATLASES.

Dimensions:-

Reference tables should be 36" wide to allow the user to spread out his material.

Tables for four adults:- 36" x 70" x 30" high

Tables for four children:- 30" x 50" x 25"-28" high.

Elbow room for adults:- 30"

Distance between tables:- 40"-60"

Distance between tables and shelves:- 48"

Sloping table tops at 20°

J. BOOK TROLLEYS

The book trolley is a means of conveyance used in a variety of ways in a library, e.g.:-

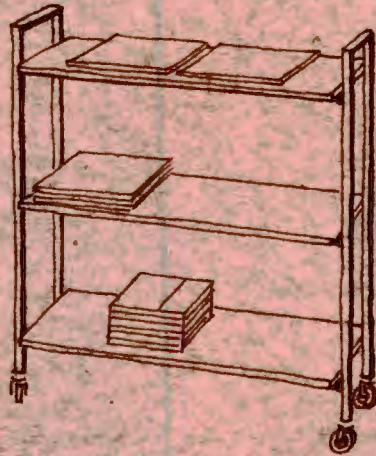
for transporting books to and from the circulation desks

to take books up and down lifts

to take books to shelves

for display purposes

The stress should be on convenience and simplicity of design. They should be mounted on sturdy, free-moving and silent wheels. They are usually provided with two or more shelves, either open to both sides or closed on one side, and slightly sloping in-



BOOK-TROLLEY OF METAL-FRAME AND  
FIXED TIMBER SHELVES  
L: 2' 6" ; H: 2' 8" ; W: 1' 5"



BOOK-TROLLEY OF SPLAYED METAL-  
FRAME WITH INCLINED, FIXED TIMBER  
SHELVES; TOP SHELF IS FLAT  
L: 2' 6" ; H: 3' 3" ; W: 1' 9"

wards.

For stability the bottom shelf should not be more than 9" - 10" off the ground. They are often fitted with removable book troughs which can be used in other parts for various purposes.

Trolleys are 28"-30" long, 15"-20" wide, 36" high.

#### K. SPECIALISED SHELVING

##### a. Maps and illustrations:-

Fittings are dictated by the method of working, i.e.

- (i) Folded maps can be housed in vertical files - minimum of floor space, ease of accessibility and of indexing system.
- (ii) Tray type of plan file for flat maps - maximum number of maps per tray is 100. To facilitate removal, 10 maps per folder are recommended.
- (iii) Long rolled maps require special fittings as well as ample space for opening out maps and copying.

##### b. Films:-

The usual type of film encountered is the safety

base type and presents no greater fire risk than paper. 16 mm. film in this can be stored and indexed in double compartment drawers. Larger films of 35 mm. are more conveniently housed in tin boxes placed flat on the shelves. Inflammable films of the celluloid type need very special consideration and are housed preferably in special vaults. Temperature and humidity play an important part in the ageing of these films and must thus be controlled.

Ample room must be provided for viewing and splicing of films. If film readers are provided they must be positioned so that they are not subject to direct sunlight - blinds are otherwise necessary.

c. Gramophone Records:-

The ordinary record is thermoplastic and is thus apt to warp if not properly supported. Ideally records should be kept flat and not piled too high - pressure due to weight damages playing surfaces. In addition the lower records tend to be inaccessible. A special fitting is thus necessary - not more than 20 records to each pile. In view of the fact that flat storage is wasteful on floor area, pigeon holing must be

considered. The top record must not be more than 6'0" from floor level and the lowest 18". This is satisfactory as long as each pigeon hole is full of records, to prevent warp.

Interior supports to pigeon holes should be 6" at centres for albums and 2" for single records. Flat shelves should be 14" deep and at 13"-14" centres.

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                                          ry Building.
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- Levin, G.:                        Thesis.