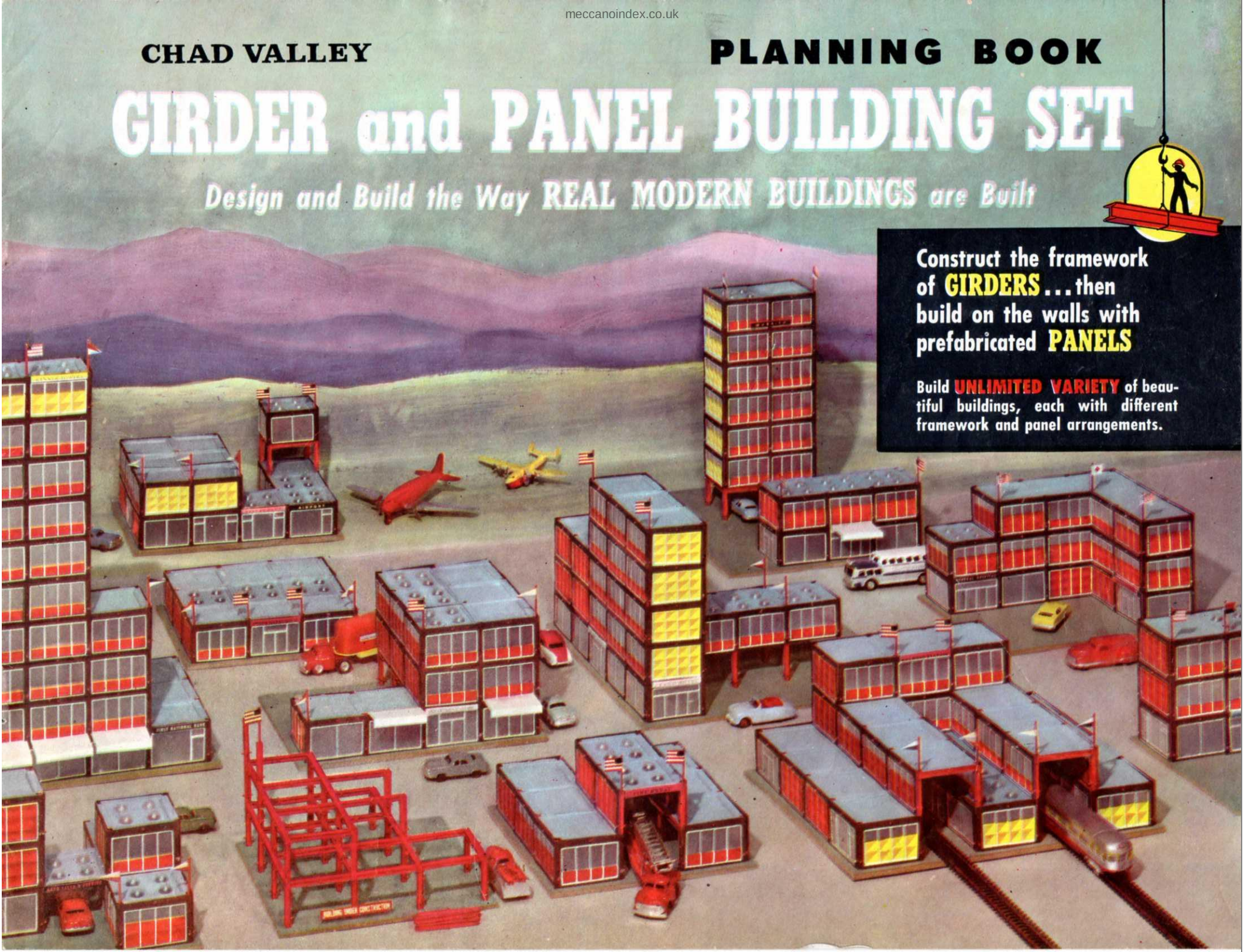
CHAD VALLEY

PLANNING BOOK

GIRDER and PANEL BUILDING SET

Design and Build the Way **REAL MODERN BUILDINGS** *are Built*

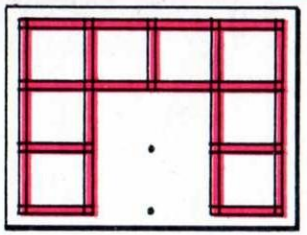


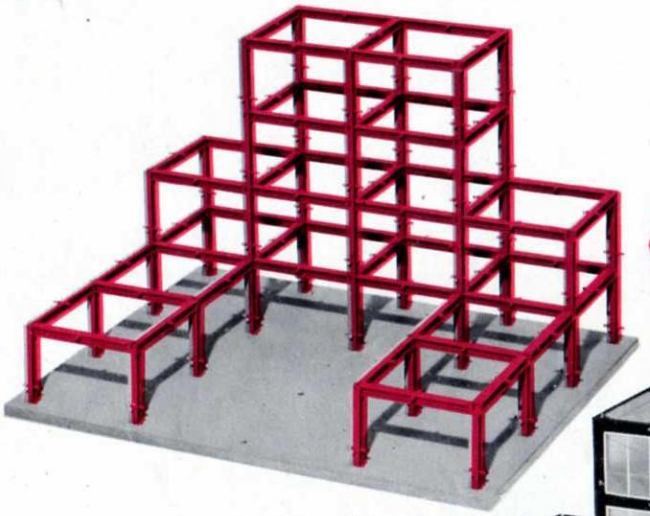
Construct the framework of GIRDERS . . . then build on the walls with prefabricated PANELS

Build **UNLIMITED VARIETY** of beautiful buildings, each with different framework and panel arrangements.

It's easy to build handsome buildings like these with Girder and Panel Building Set No. 2

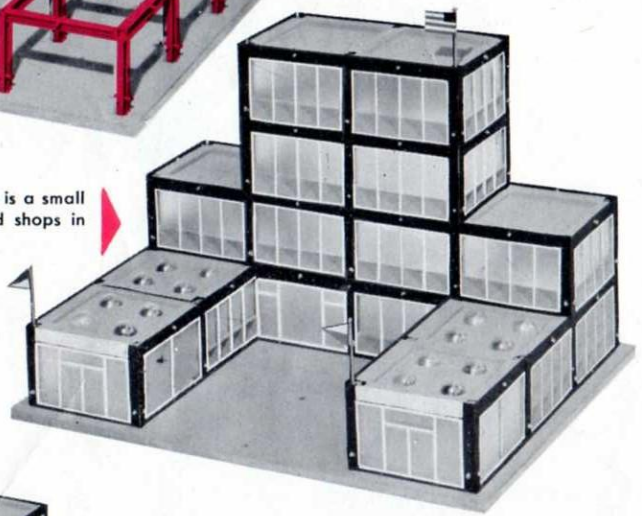
Here is the plan for the "U" shaped first floor of the building shown on the lid of the No. 2 Set. This plan shows how to position the girders on the Masonite foundation. The *upright girders* are shown by small red squares, and the *cross girders* are shown by red bars connecting the squares.

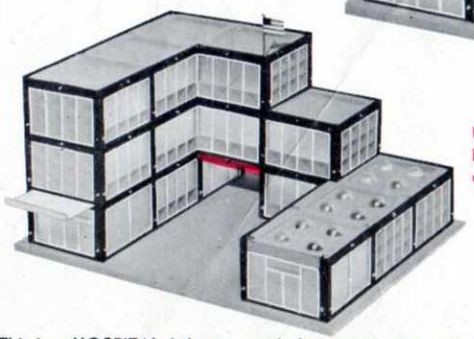




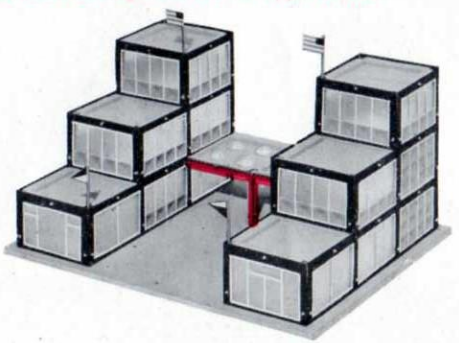
Here is the completed framework, built on the "U" shaped plan, before the wall and roof panels are put on. This plan leaves an open courtyard in front, as in many apartment buildings and suburban hotels.

Here is the finished building. It is a small HOTEL, with dining rooms and shops in the two wings.





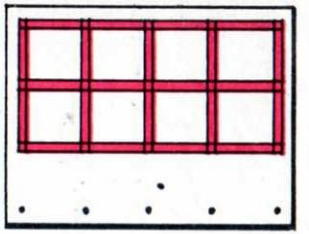
Using the same "U" shaped first floor plan, you can build entirely different buildings, with different girder and panel arrangements for the upper stories.

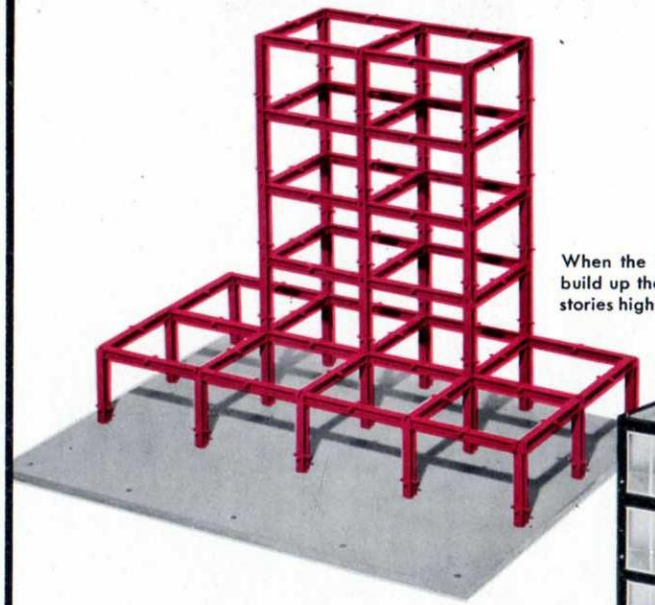


This is a HOSPITAL. It has an ambulance entrance under the building. This is done without changing the framework of the first floor. Wall panels with notched corners are used in the passage-way (see Instruction Sheet).

Here is another building on the same "U" shaped plan. This is a modern MUSEUM building with all rooms open to the light on all sides. A covered passage-way connects the two wings.

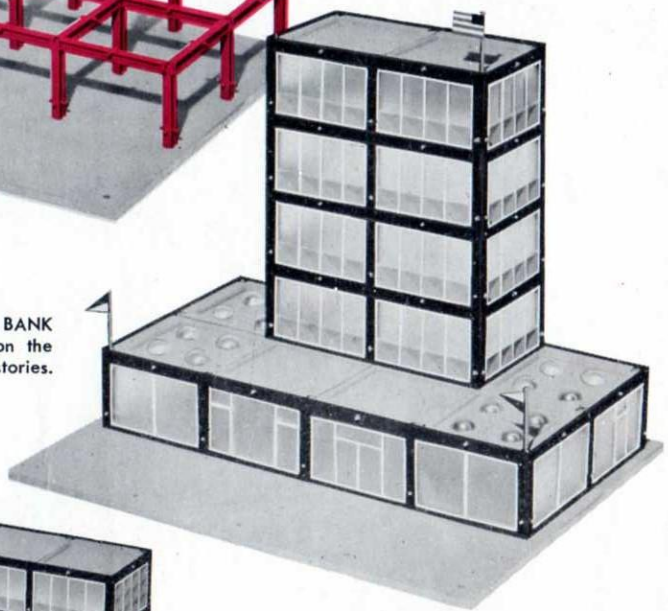
This rectangular first floor plan has many design possibilities.



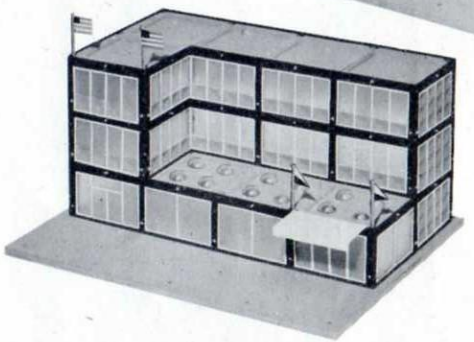


When the framework for the first floor is in place, build up the two centre sections of the back row five stories high. The finished framework will look like this.

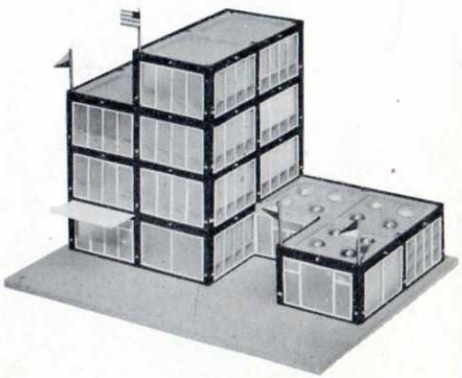
The completed building can be a BANK BUILDING, with banking rooms on the first floor and offices in the upper stories.



Here are some other buildings using the same first floor plan.

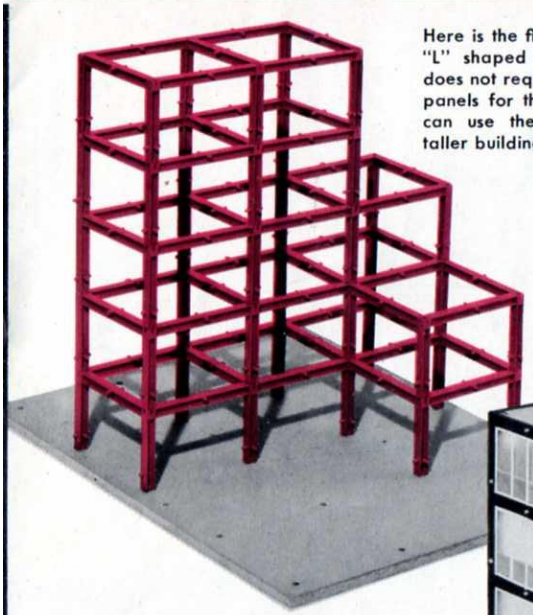


This three-story HIGH SCHOOL building has its entrance hall and the principal's offices in the one-story section.

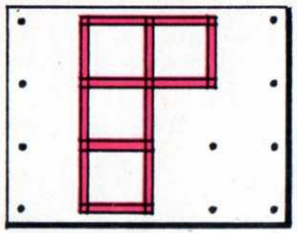


This PUBLIC LIBRARY building has reading rooms on the first floor, and book rooms in the tall section. To make the interesting set-back entrance, leave off one cross girder from the front row when building the framework.

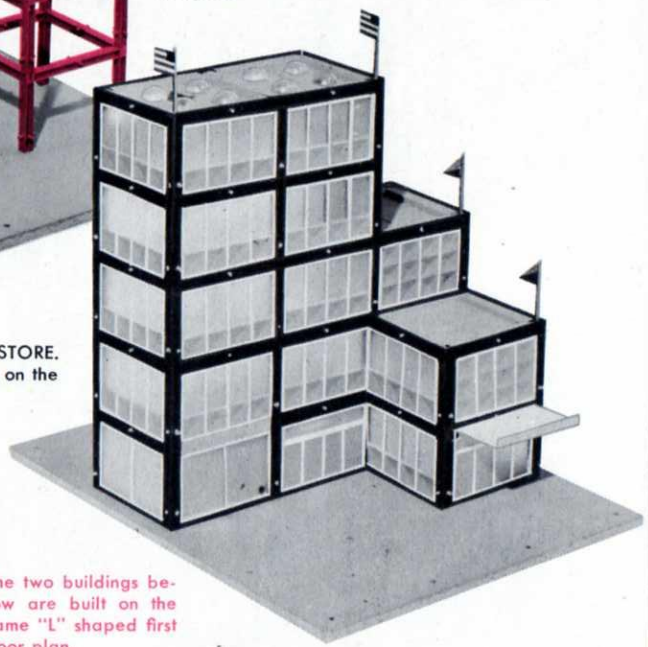
Some buildings are very simple, others are more complicated, but they are all fun to build



Here is the first floor plan for an "L" shaped building. This plan does not require many girders or panels for the first floor, so you can use the material to build taller buildings.

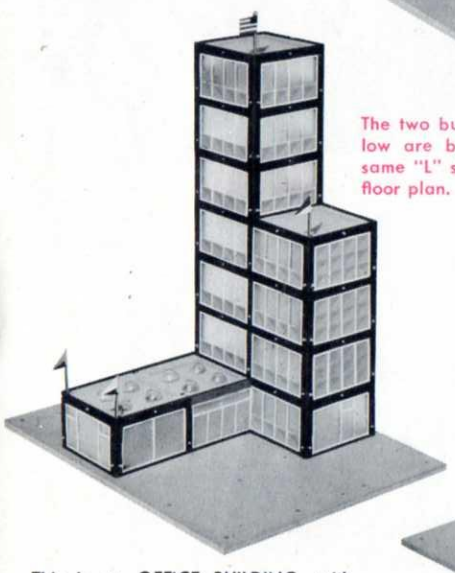


Here is the finished framework for an "L" shaped building.

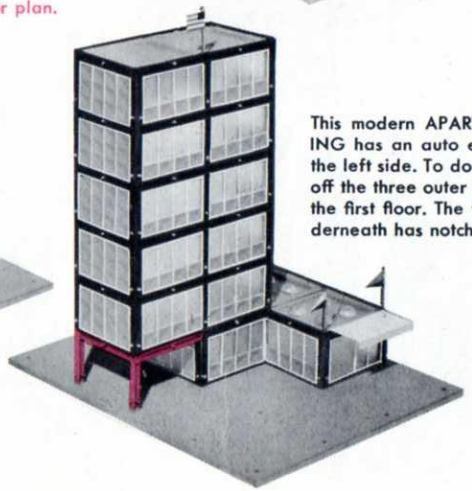


Completed building is a DEPARTMENT STORE. You can use more show window panels on the first floor if you wish.

The two buildings below are built on the same "L" shaped first floor plan.

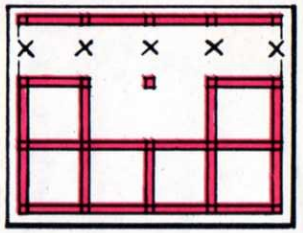


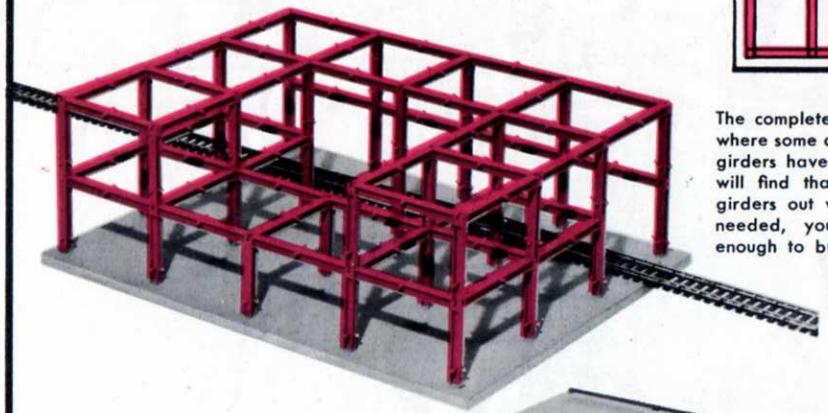
This is an OFFICE BUILDING, with stores on the first floor and a seven story tower.



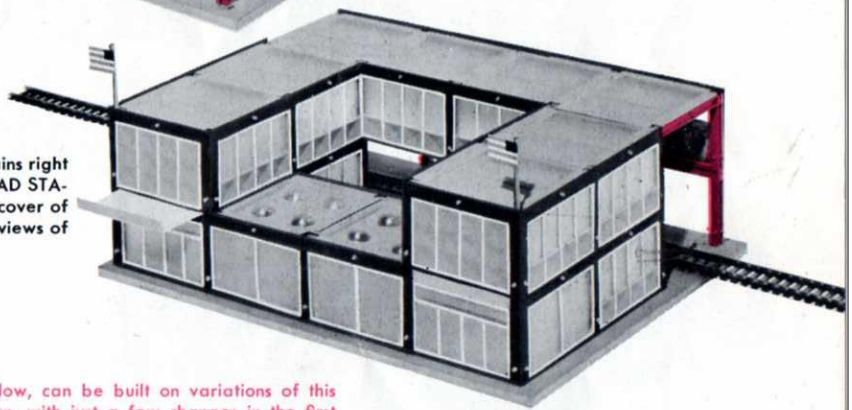
This modern APARTMENT BUILDING has an auto entrance under the left side. To do this, just leave off the three outer wall panels on the first floor. The wall panel underneath has notched corners.

This is an "over all" floor plan, using an upright girder in every hole in the Masonite foundation. Some of the first floor cross girders are left out purposely. Places marked X on the plan show where they are left out to allow double the height of the first floor. In the blank places, they are left out because they are not needed there, but are used elsewhere to make the building larger.





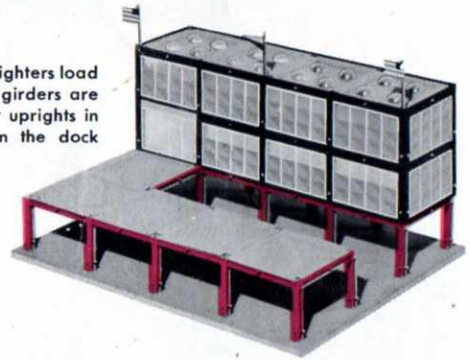
The completed framework shows where some of the first floor cross girders have been left out. You will find that by leaving cross girders out where they are not needed, you will often have enough to build an extra story.

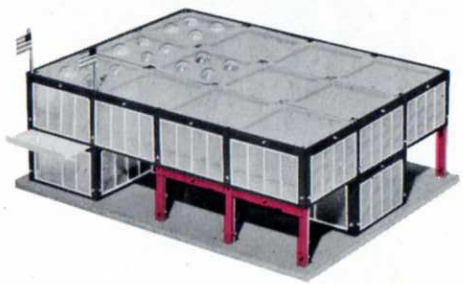


You can run your trains right through this RAILROAD STATION. On the back cover of this book are other views of this same station.

Other buildings, below, can be built on variations of this same "over all" plan, with just a few changes in the first floor cross girder arrangement.

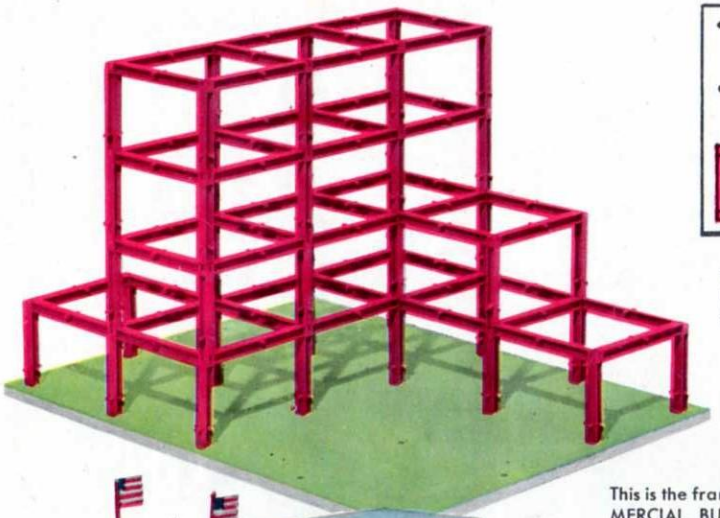
This is a SHIPPING PIER where freighters load and unload their cargoes. Cross girders are used to connect all the first floor uprights in this framework, except between the dock and the building.

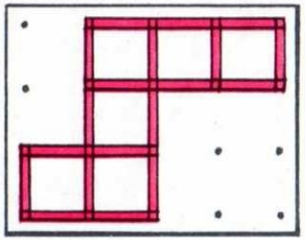




The building at the left is a modern two-story MOTEL, with a drive-way through the center. You can see from the picture where unnecessary cross girders have been left out.

Set No. 2 builds modern structures like this . . . also ultramodern cantilever buildings like these.

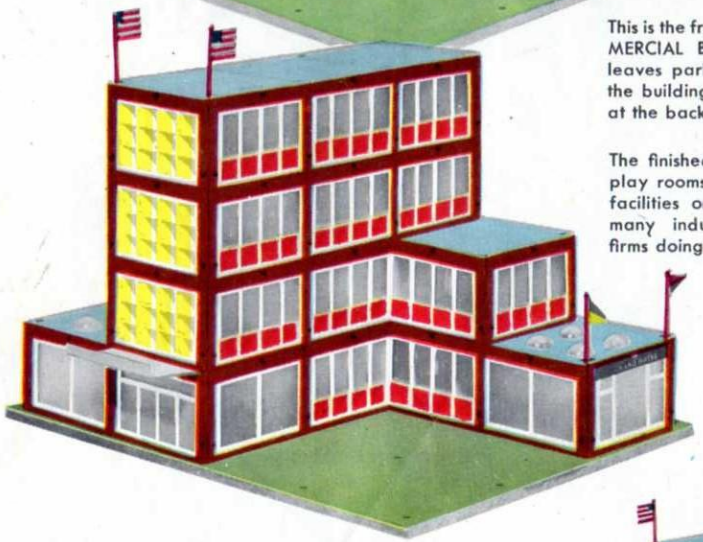




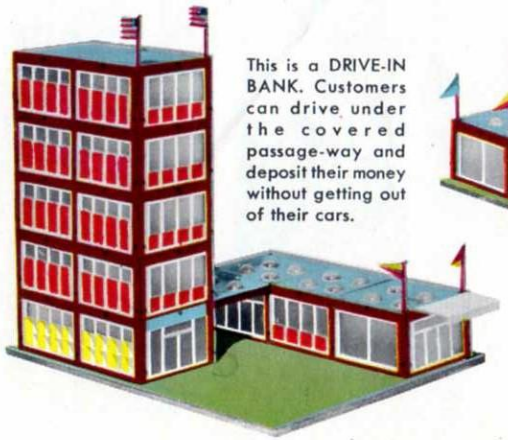
This "zig-zag" floor plan allows a great many variations in the design of buildings.

This is the framework for a handsome COMMERCIAL BUILDING. The zig-zag shape leaves parking space for cars in front of the building, and loading space for trucks at the back door.

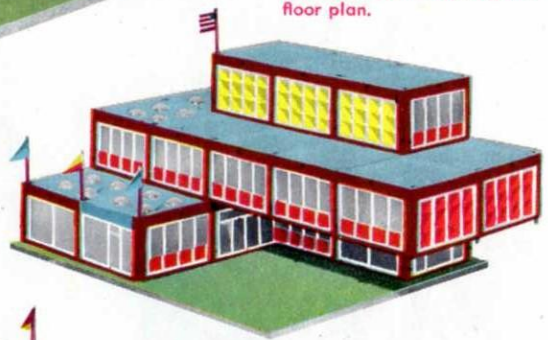
The finished building has offices and display rooms on the first floor, and factory facilities on the upper floors, typical of many industrial buildings occupied by firms doing light manufacturing.



Below are two unusual buildings on the same zig-zag first floor plan.

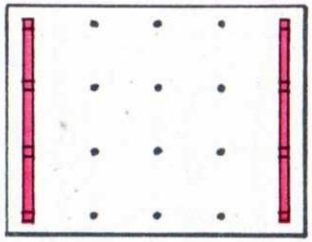


This is a DRIVE-IN BANK. Customers can drive under the covered passage-way and deposit their money without getting out of their cars.



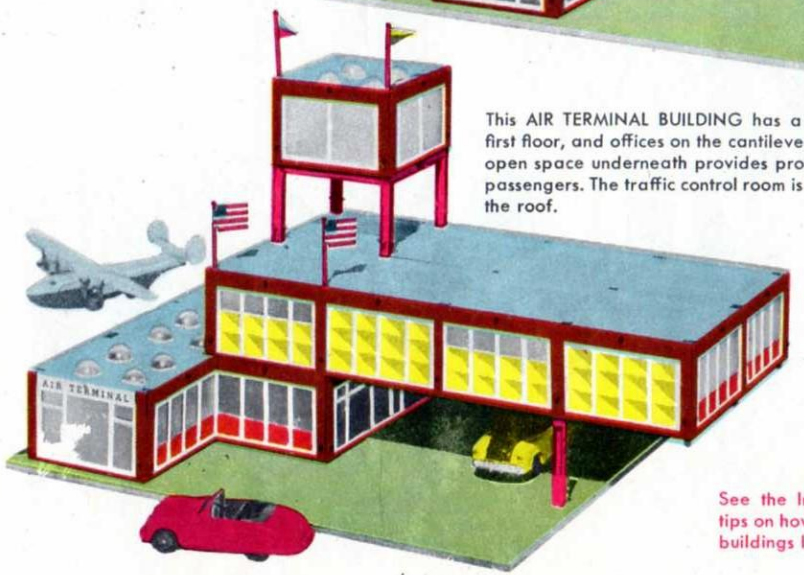
This modern BUS TERMINAL is designed so passengers can board the buses in rainy weather under the protection of the overhanging upper story. This is known as "Cantilever" construction, explained in the Instruction Sheet.

CANTILEVER CONSTRUCTION • The floor plan of this AIRPLANE HANGAR shows that the building rests on the two side walls, with no vertical supports inside the building to get in the way of the planes.



The first two floors of this Hangar are assembled as described and illustrated in Part III of the Instruction Sheet. After you have assembled the first two floors of this Hangar, build on top floor as you would a non-cantilever story.

The cantilever SEASIDE INN (right) is entirely different from the Hangar in every way. It has an "L" shaped plan for the first floor. The overhanging cantilever stories are easy to build.



This AIR TERMINAL BUILDING has a restaurant on the first floor, and offices on the cantilever second story. The open space underneath provides protection for waiting passengers. The traffic control room is raised high above the roof.

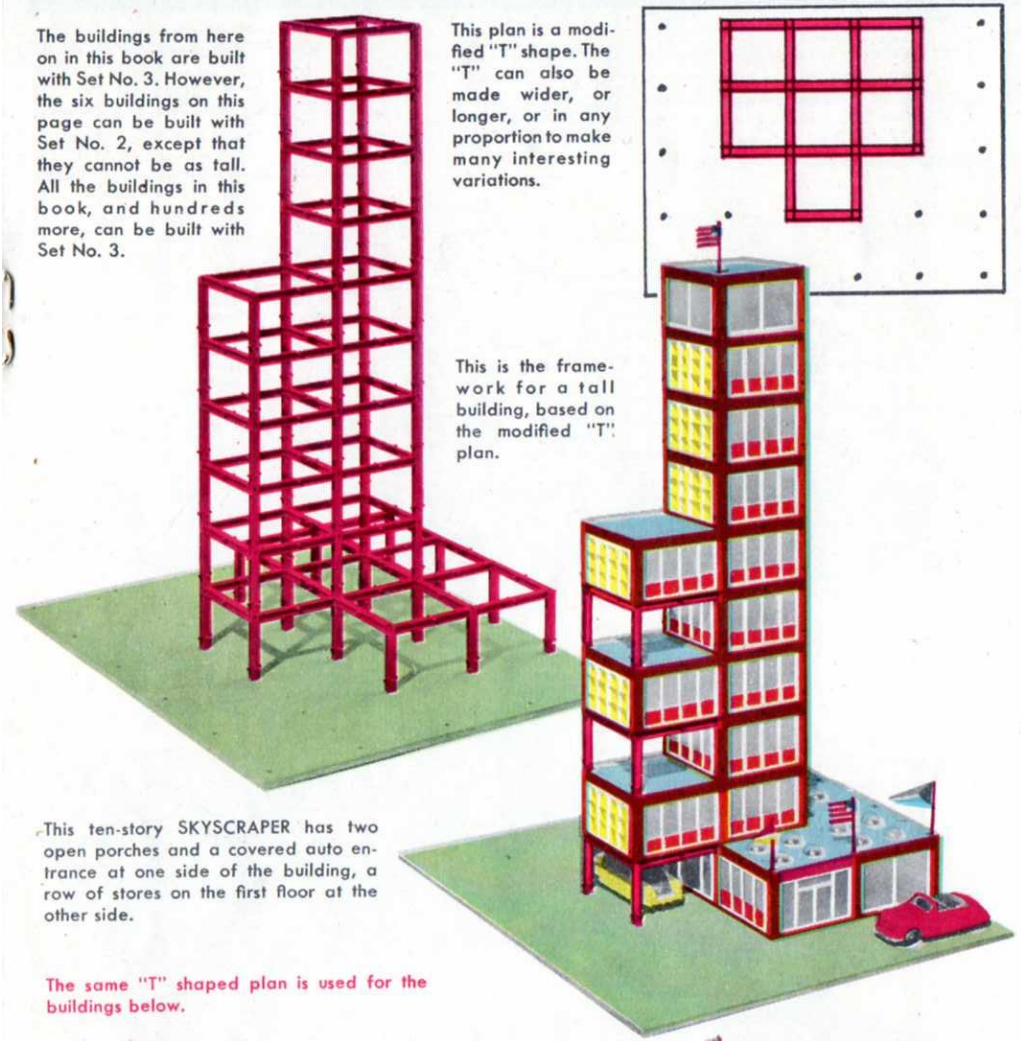
See the Instruction Sheet for tips on how to build cantilever buildings like these.

With Set No. 3 you can build any building that can be built with Set No. 2, as well as bigger ones like these . . .

The buildings from here on in this book are built with Set No. 3. However, the six buildings on this page can be built with Set No. 2, except that they cannot be as tall. All the buildings in this book, and hundreds more, can be built with Set No. 3.

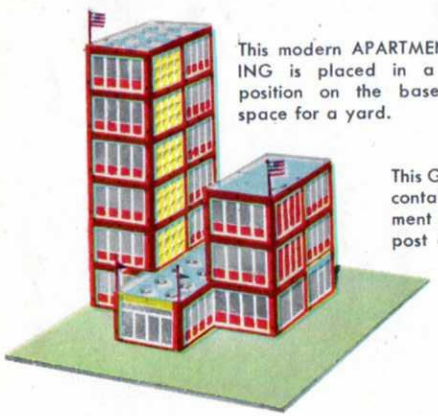
This plan is a modified "T" shape. The "T" can also be made wider, or longer, or in any proportion to make many interesting variations.

This is the framework for a tall building, based on the modified "T" plan.



This ten-story SKYSCRAPER has two open porches and a covered auto entrance at one side of the building, a row of stores on the first floor at the other side.

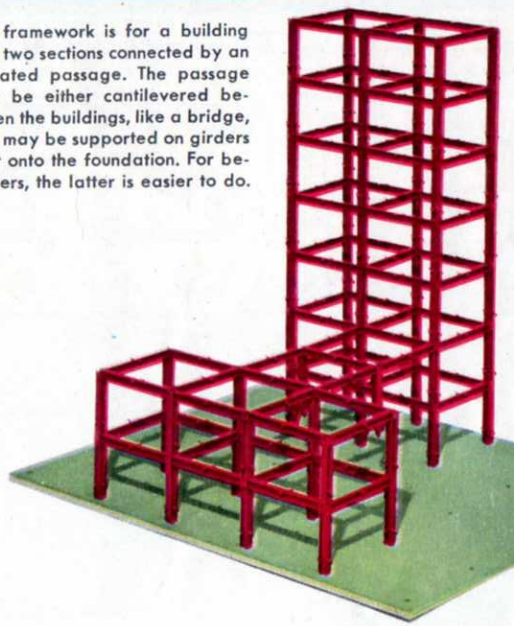
The same "T" shaped plan is used for the buildings below.

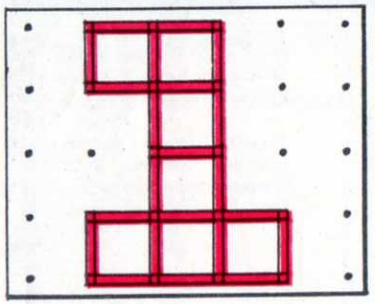


This modern APARTMENT BUILDING is placed in a different position on the base, leaving space for a yard.

This GOVERNMENT BUILDING contains offices for government workers, and possibly a post office on the first floor.

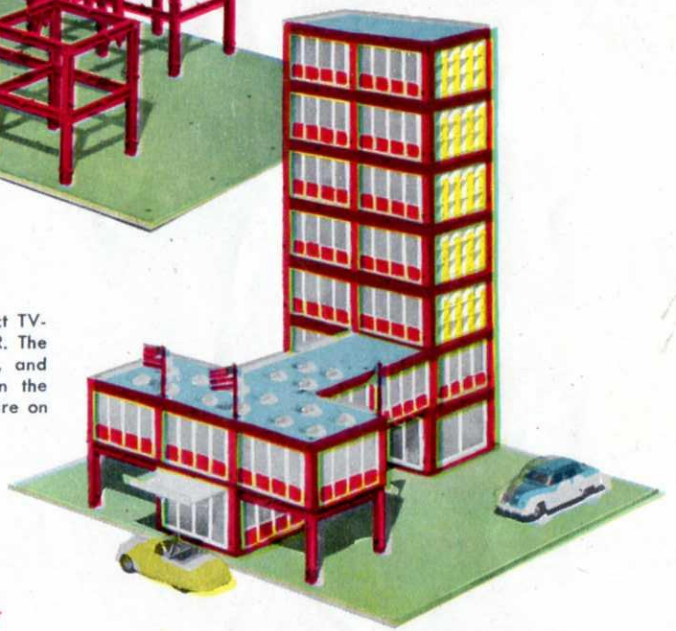
This framework is for a building with two sections connected by an elevated passage. The passage may be either cantilevered between the buildings, like a bridge, or it may be supported on girders built onto the foundation. For beginners, the latter is easier to do.





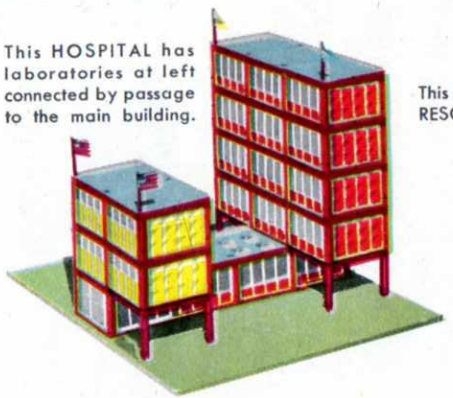
In this plan for the first floor, the girders shown in the center serve as supports for the elevated passage.

The finished building is a perfect TV-RADIO BROADCASTING CENTER. The low section contains the offices, and the broadcasting studios are in the tower section. Reception rooms are on the first floor.



The same plan may be used for massive buildings.

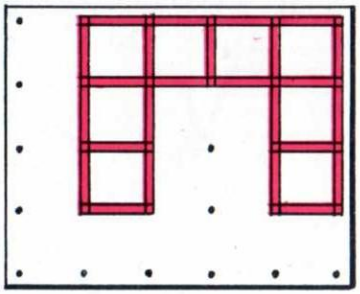
This HOSPITAL has laboratories at left connected by passage to the main building.



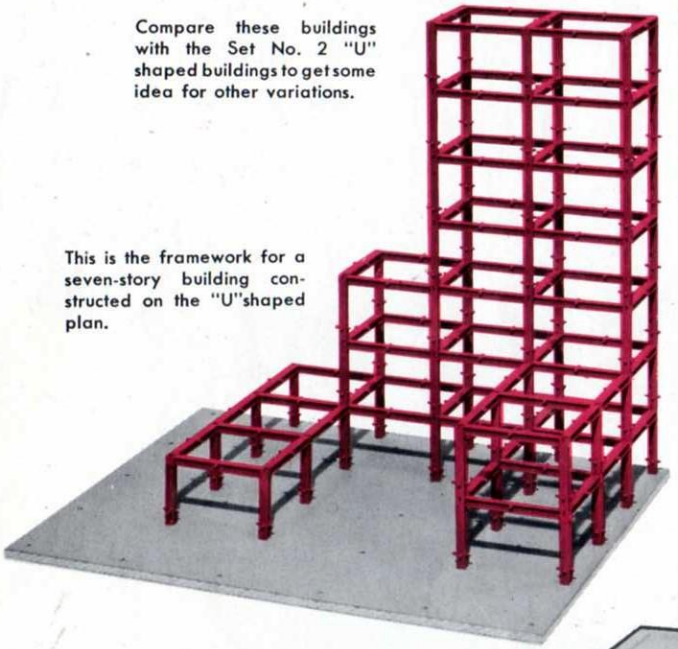
This is a fashionable RESORT HOTEL.

Building is only half the fun—you can use your model trains, cars and boats with these buildings

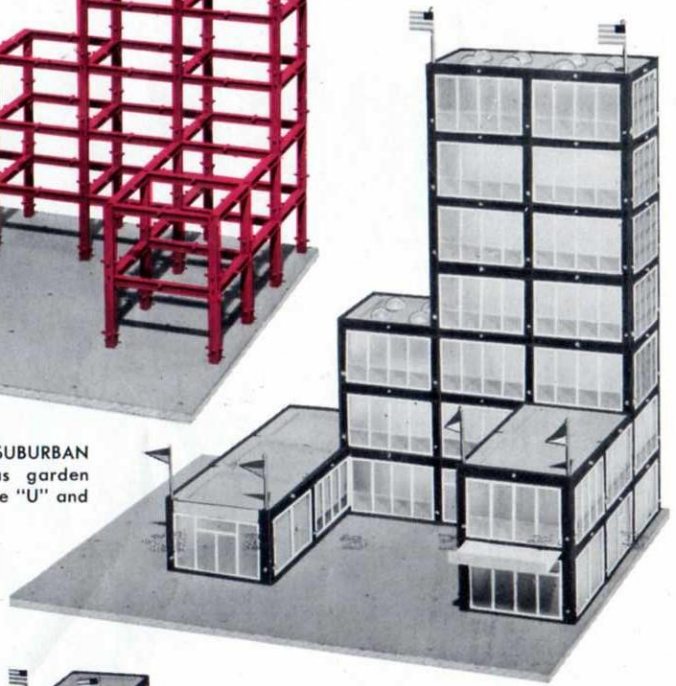
Here is a "U" shaped first floor plan, on the Set No. 3 foundation board. This shape may also be expanded to the full size of the board.



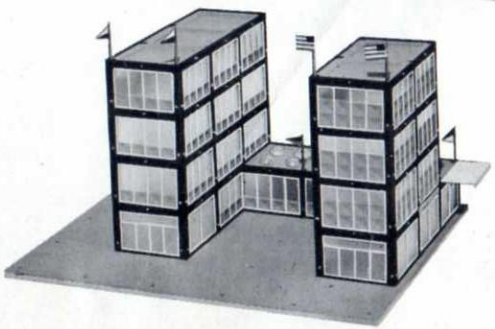
Compare these buildings with the Set No. 2 "U" shaped buildings to get some idea for other variations.



This is the framework for a seven-story building constructed on the "U"shaped plan.

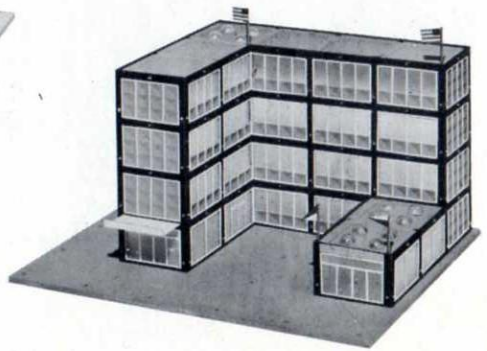


Here is the completed SUBURBAN OFFICE BUILDING. It has garden space in the opening of the "U" and parking space alongside.



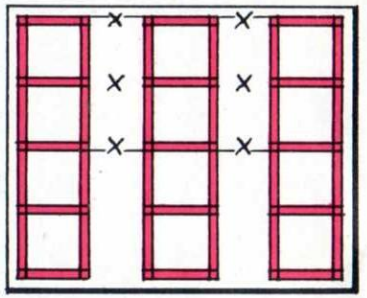
This is a modern NEWSPAPER PLANT. Editorial and business offices are in one wing, engraving plant, composing room and presses in the other.

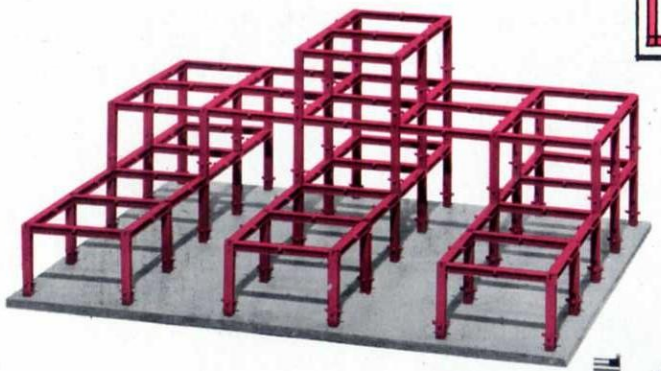
Here are some different designs built on the "U" shaped plan.



A MANUFACTURING BUILDING designed like this provides lots of daylight and long aisles for production lines on every floor.

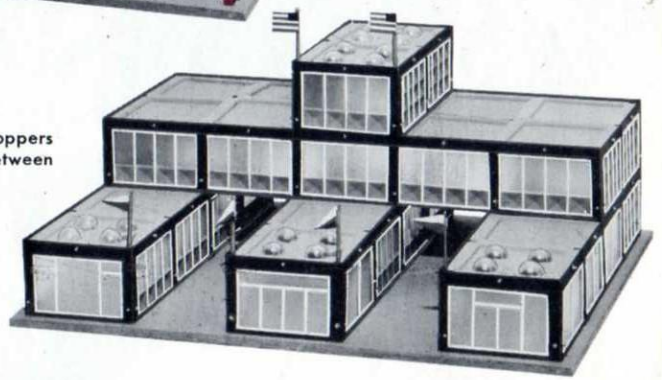
An "over all" first floor plan uses an upright girder in every hole in the Masonite foundation. In this plan, places marked X show where cross girders are purposely left off the first floor framework because they are not needed at those places. They are needed on the second floor, above the X marks, to hold the roof panels.

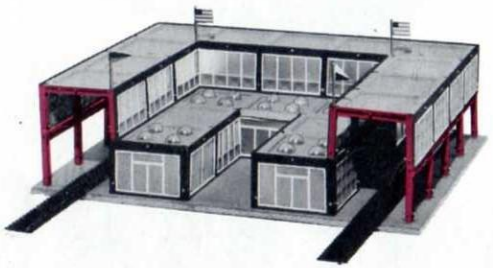




The finished framework shows how all the girders are placed to leave open areas through the building.

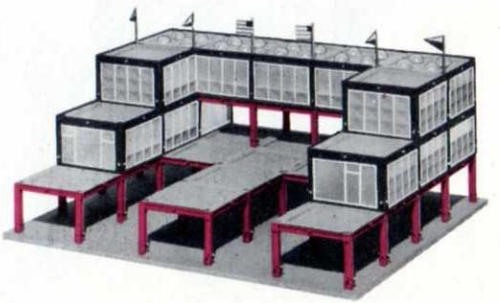
This is a SHOPPING CENTER. Shoppers can walk through the open areas between the rows of stores.





In this RAILROAD STATION, cross girders are left out of both side rows to allow double the height of the first floor so trains can run through.

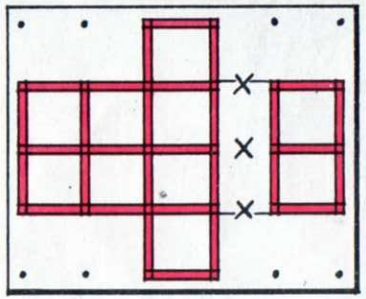
Other variations of the "over all" plan make interesting play structures.

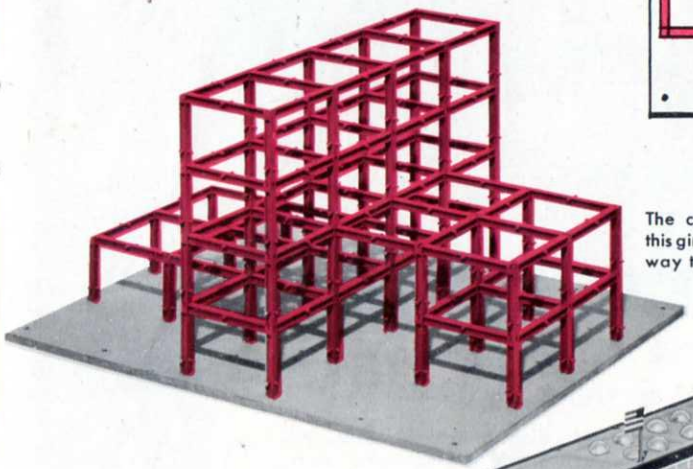


A large PIER structure like this can be found at a seaside resort. Restaurants, stores and tackle shops occupy the building, small boats put in at the wharves, and fishermen cast their lines from the docks.

Girder and Panel Building Set No. 3 has endless possibilities for young architects and engineers

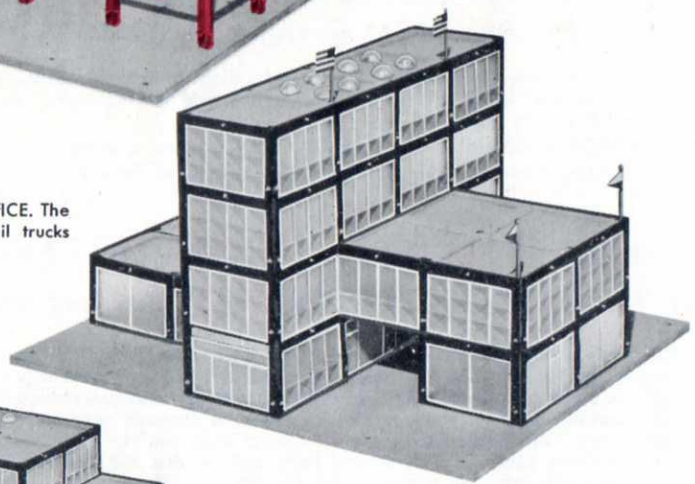
This unusual plan is fine for building large structures. Note the X marks, showing where cross girders have been purposely left out because they are not needed at these places. You will find that by omitting cross girders at places where they are not necessary, you can often use those girders at other places to make your building larger.

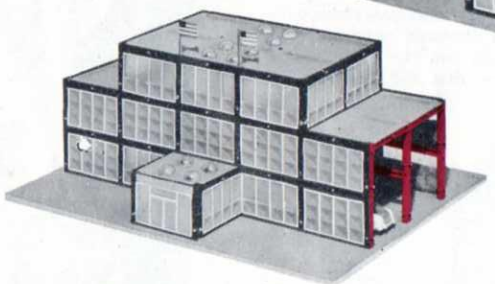




The completed framework shows how this girder construction leaves a passage-way through the building.

This is a metropolitan POST OFFICE. The passage-way is where the mail trucks drive into the building.

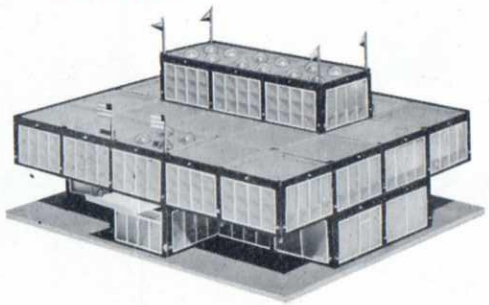




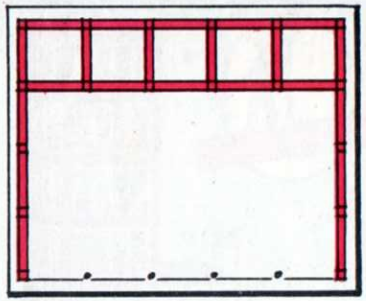
Here are two entirely different buildings, based on the same first floor plan as above, but with changes in the cross girders.

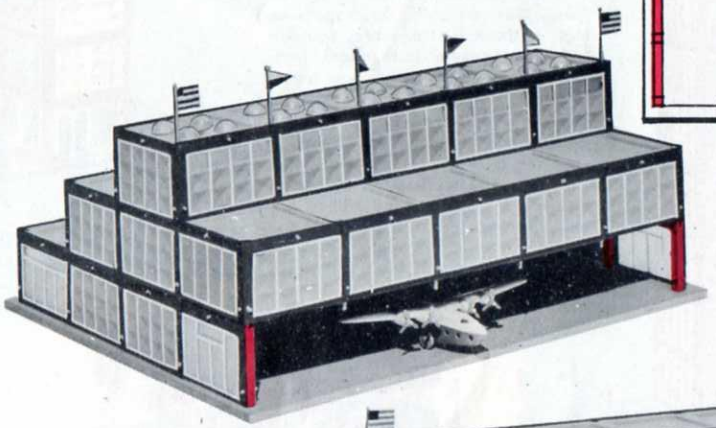
This FIRE DEPARTMENT building is large enough to hold big ladder trucks. By leaving off all of the interior cross girders, we have doubled the height of the first story so we can drive the fire equipment inside. Firemen sleep on the top floor.

At right is a large RESTAURANT designed to be built on a high hill. The dining room, on the second floor, is built out above the ground for a better view. Many modern hilltop houses are being built with cantilever construction like this.



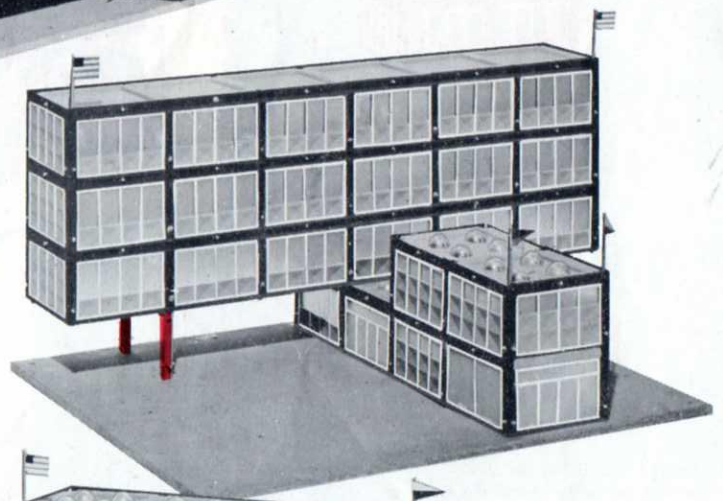
CANTILEVER CONSTRUCTION • Here is the ground floor plan for the big AIRPLANE HANGAR below. This is like the cantilever hangar for the No. 2 Set shown in the middle of this book, except that you use this floor plan. Otherwise, it is built in the same manner as described for the No. 2 Set hangar.

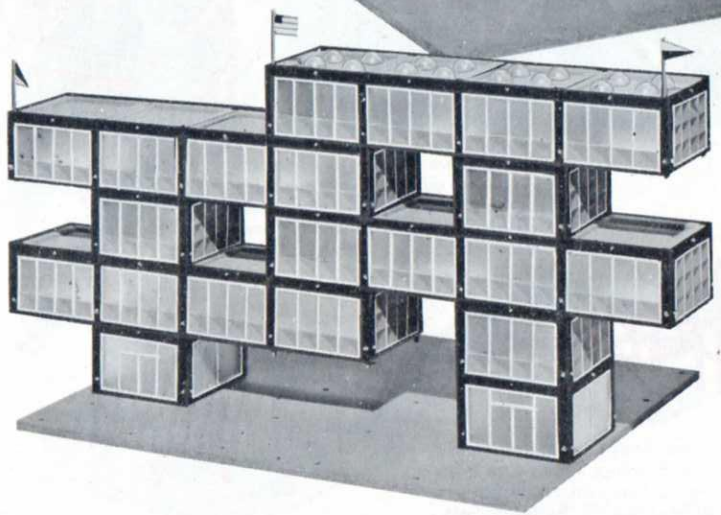




The interior of the hangar has no upright girders. The entire upper part is self supporting, like in a real airplane hangar. Once you have learned the cantilever construction method, this is not difficult to build.

This building houses the GENERAL OFFICES for a big corporation. Its cantilever construction gives it the striking effect of floating on air, yet it is firmly supported.





This ultramodern cantilever design might be used in a WORLD'S FAIR EXHIBIT BUILDING. It is meant to attract attention by its unusual form, yet it is arranged for maximum natural light and useful interior space.

CHAD VALLEY

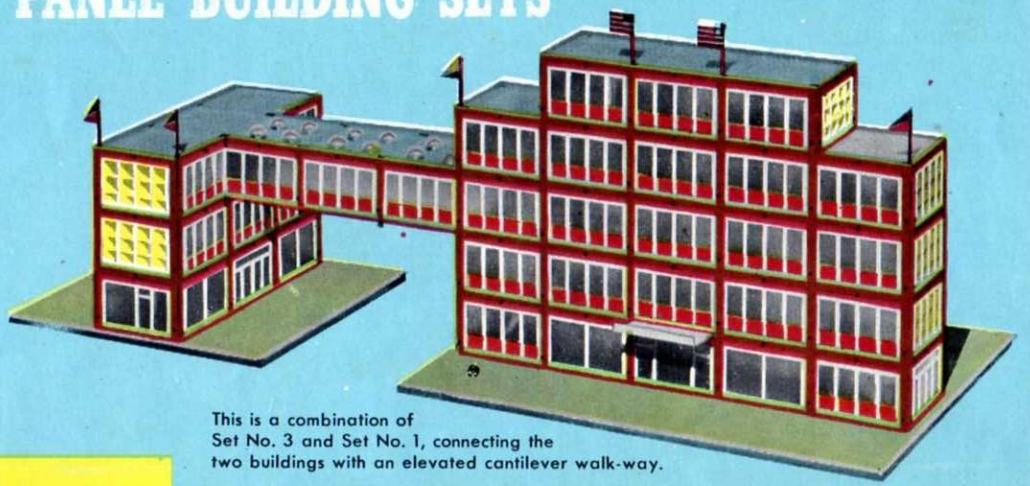
GIRDER and PANEL BUILDING SETS

YOU CAN COMBINE THE SETS

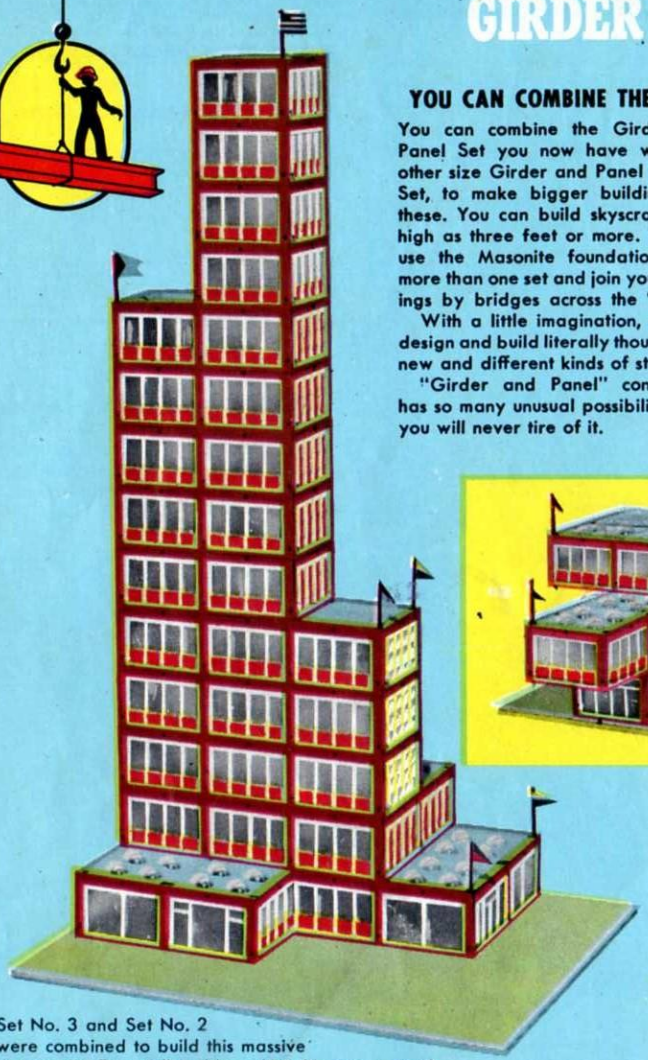
You can combine the Girder and Panel Set you now have with any other size Girder and Panel Building Set, to make bigger buildings like these. You can build skyscrapers as high as three feet or more. You can use the Masonite foundations from more than one set and join your buildings by bridges across the "street."

With a little imagination, you can design and build literally thousands of new and different kinds of structures.

"Girder and Panel" construction has so many unusual possibilities that you will never tire of it.



This is a combination of Set No. 3 and Set No. 1, connecting the two buildings with an elevated cantilever walk-way.



Set No. 3 and Set No. 2 were combined to build this massive skyscraper. Even tall buildings like this are so rigid that they can be picked up by the foundation and carried about.

MODERN CANTILEVER CONSTRUCTION

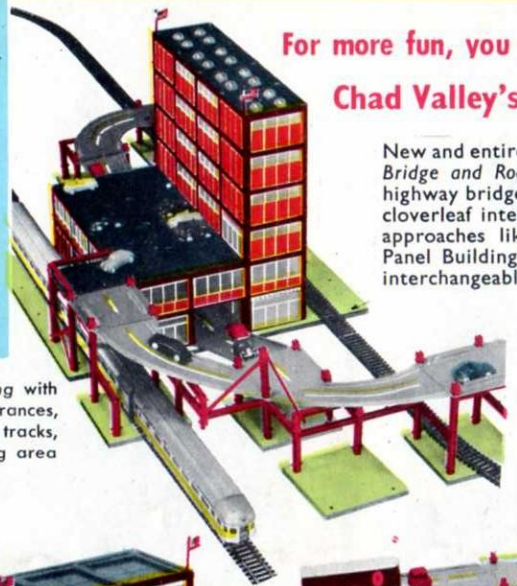
Possible only with GIRDER and PANEL BUILDING SETS

Because of the "triangle bracing" principle which gives such rigidity to buildings constructed with these sets, it is possible to use modern cantilever effects such as overhanging upper stories, as in the building at the left.

BE A CONSTRUCTION ENGINEER • These are the only all-plastic building sets that let you build with girders like structural steel, with prefabricated panels for walls and roof.

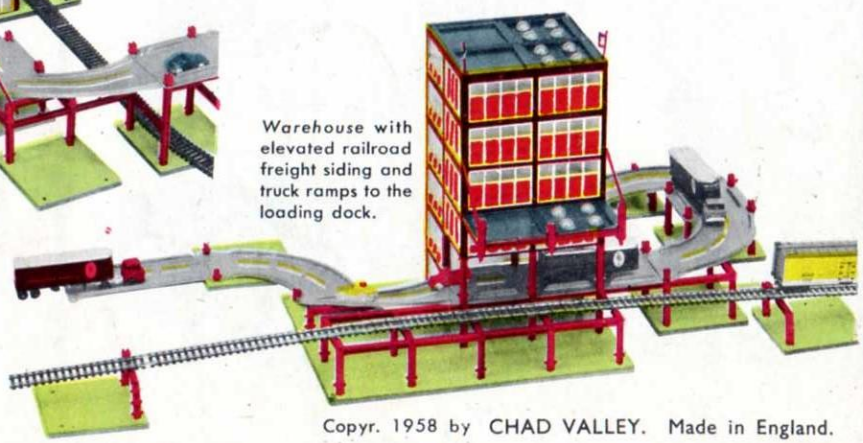
For more fun, you can combine your Girder and Panel Set with Chad Valley's BRIDGE and ROADWAYS Building Sets

New and entirely different than any other kind of building sets, Chad Valley *Bridge and Roadway* Building Sets will make strong, realistic bridges—highway bridges, suspension bridges, railroad bridges—also turnpikes with cloverleaf interchanges and overpasses, as well as elevated roadways and approaches like those shown here. Same scale on the Girder and Panel Building Sets, so all structural parts will fit into and can be used interchangeably with the girders in the buildings.



Right: *Modern Terminal Building* with street level auto and taxi entrances, approaches overpassing the tracks, and ramps leading to parking area on the roof.

This graceful *High Lever River Bridge* has a *Tall House* built with a Girder and Panel Building Set. There is no limit to the kinds of sturdy bridges you can construct with the BRIDGE and ROADWAY'S Building Sets.



Warehouse with elevated railroad freight siding and truck ramps to the loading dock.