Oct. 22, 1957 C. T. WILSON 2,810,414

FABRICATING TABLE FOR BUILDING PANELS

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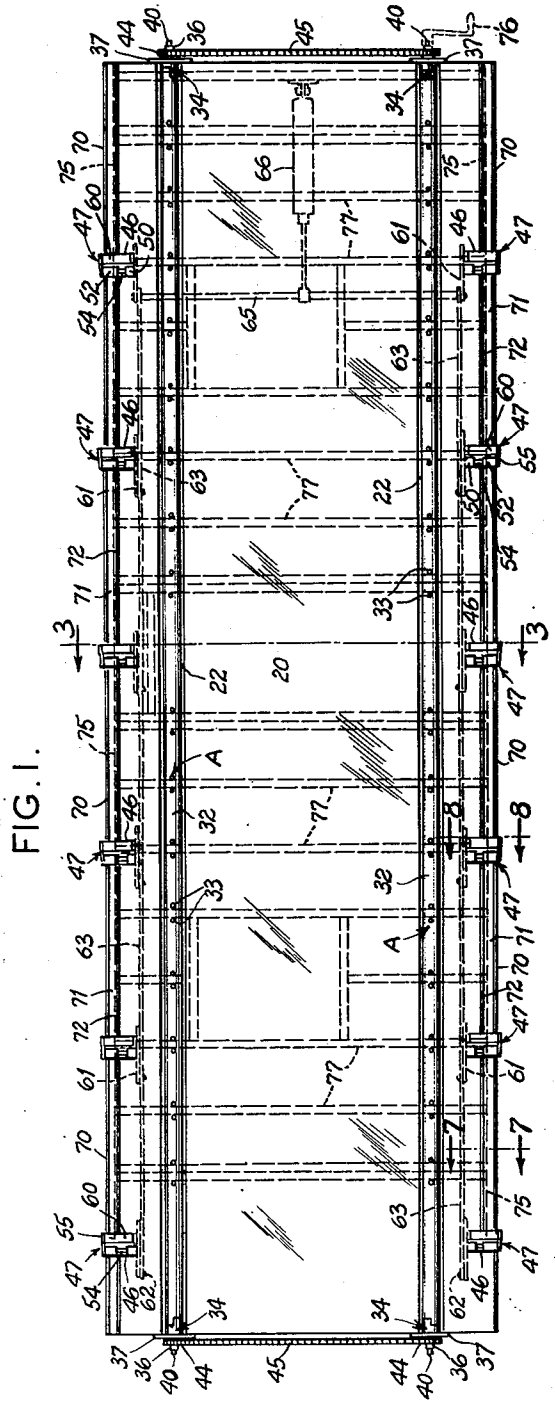


FIG. 1.

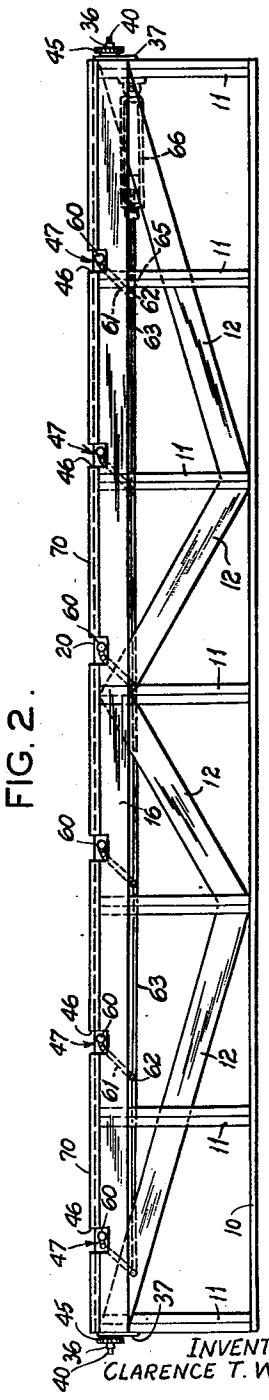


FIG. 2.

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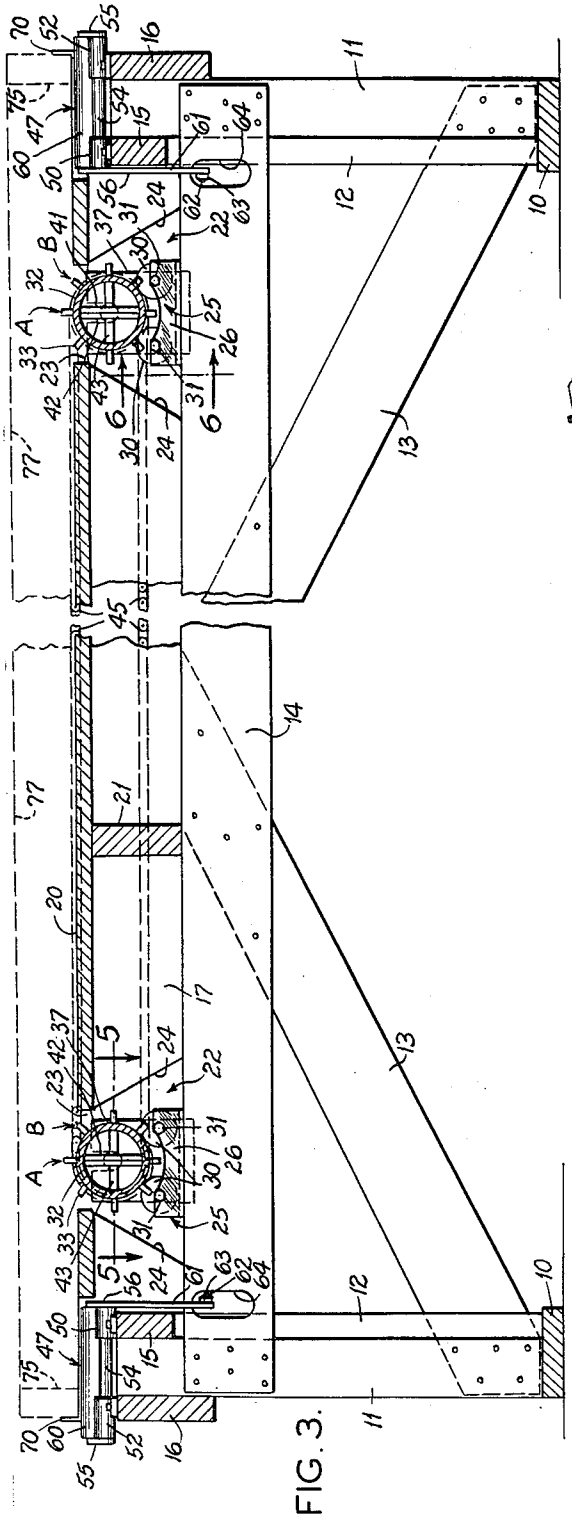


FIG. 3.

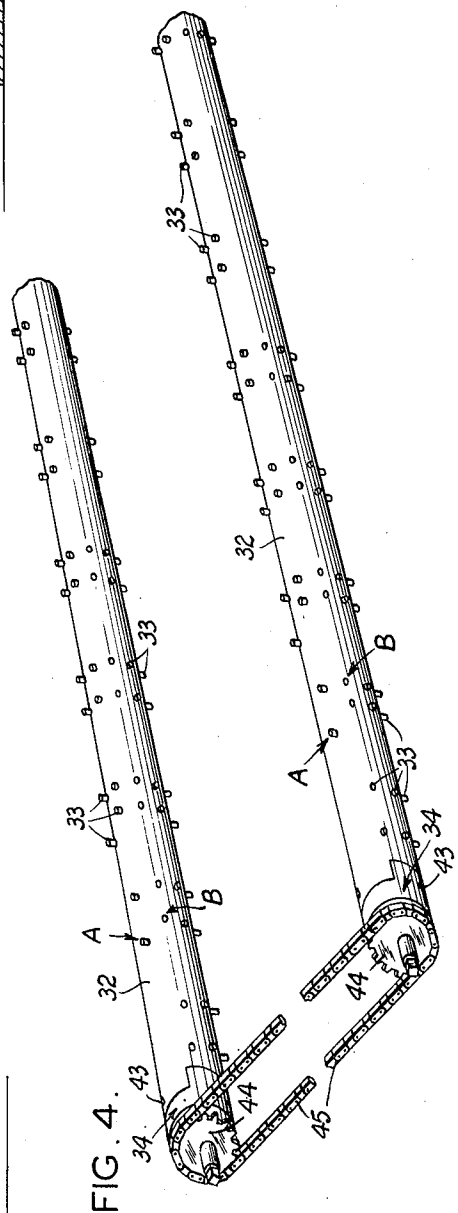


FIG. 4.

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FABRICATING TABLE FOR BUILDING PANELS

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FIG. 5.

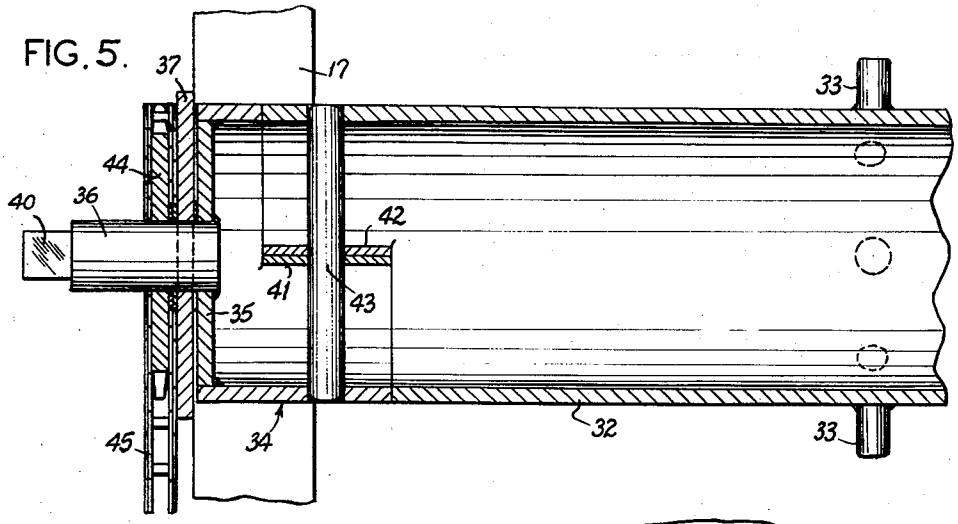


FIG. 6

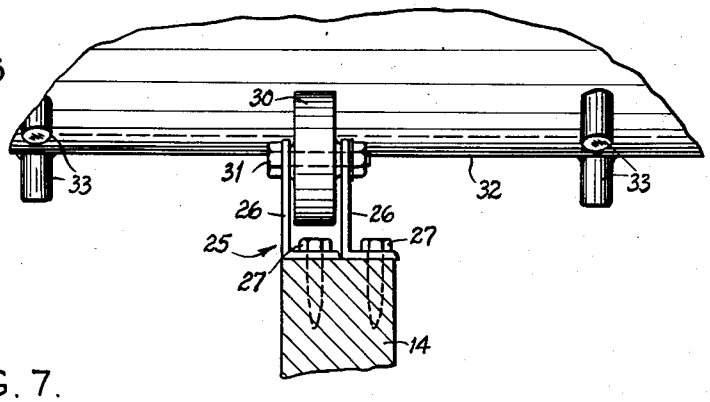
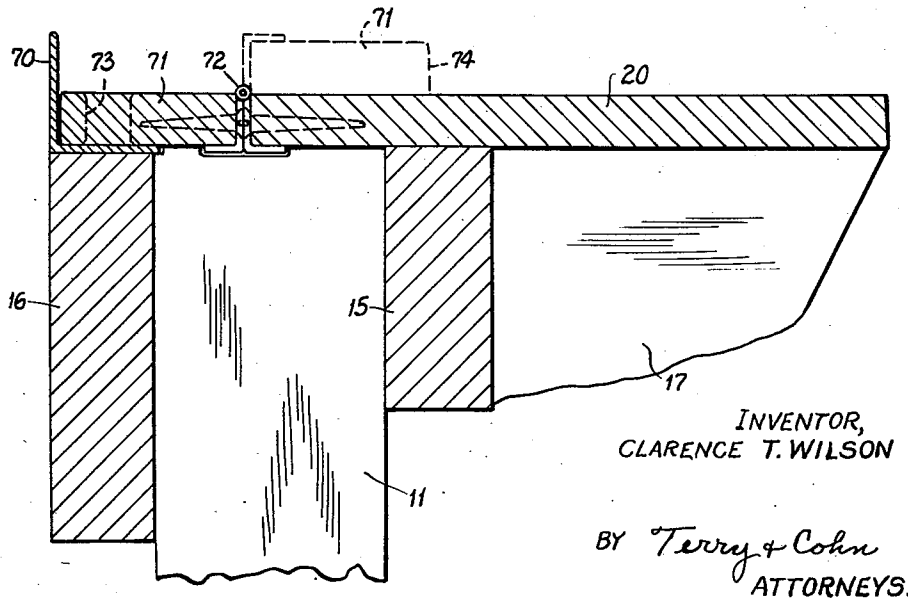


FIG. 7.



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FIG. 8.

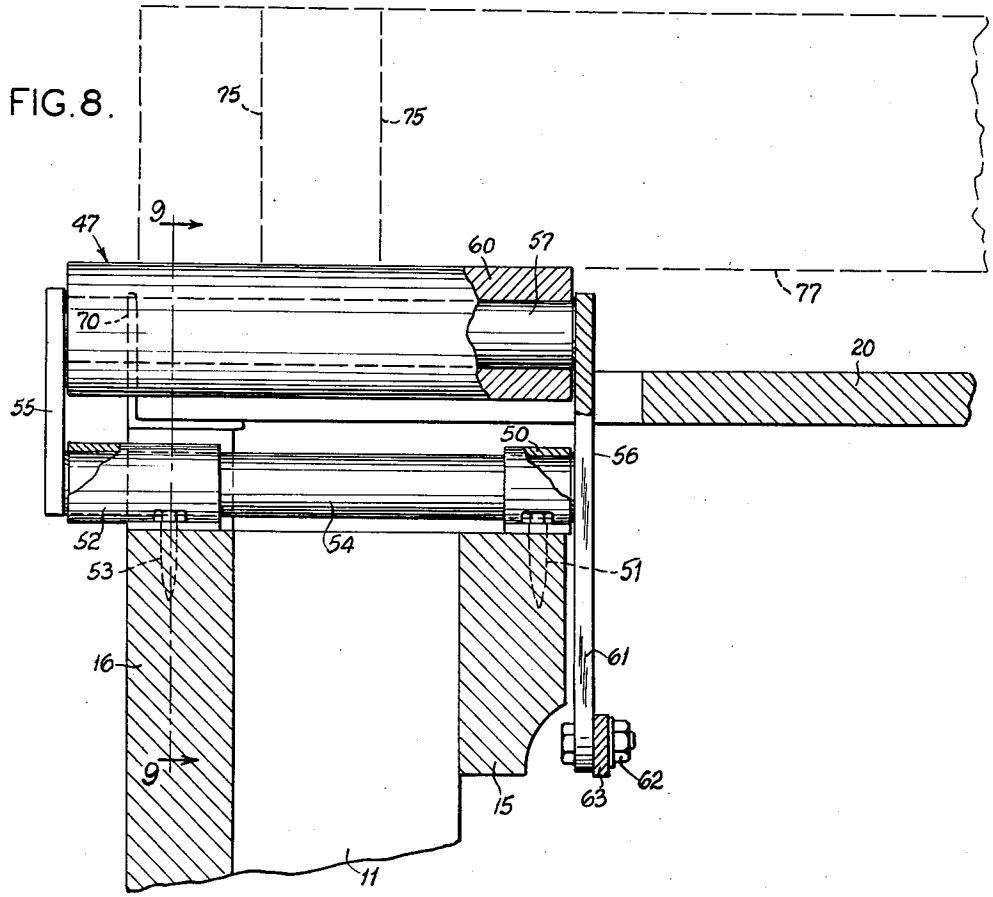
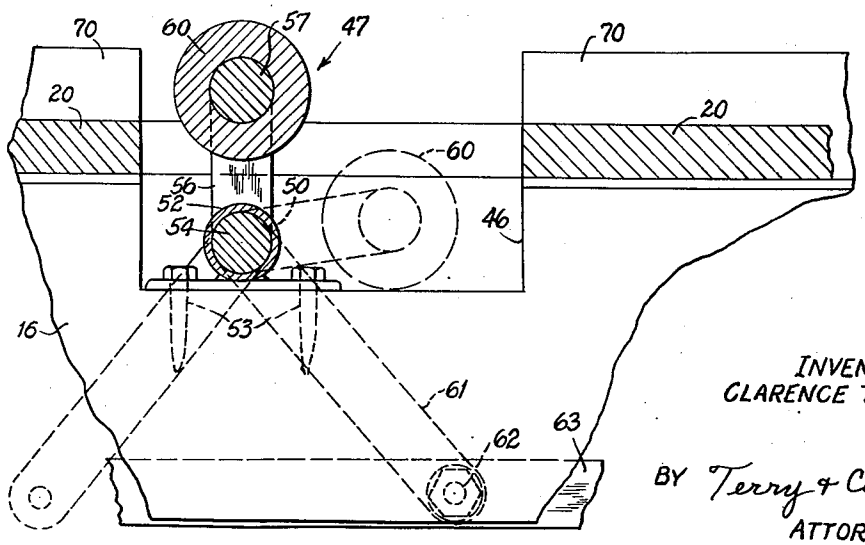


FIG. 9.



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2,810,414

FABRICATING TABLE FOR BUILDING PANELS

Clarence T. Wilson, Ladue, Mo.

Application August 25, 1955, Serial No. 530,467

8 Claims. (Cl. 144—288)

This invention relates to improvements in a fabricating table for building panels, and more particularly to an improved table of the type described having provisions for selectively forming any of several panels of different constructions and sizes.

Heretofore, it was the conventional practice to utilize a separate fabricating table for each panel of specific size and structure. Depending upon the number of different panels in a house or building that were prefabricated in an assembly plant prior to erection at the building site, there were a corresponding number of assembling tables. These tables occupied a considerable portion of the available space in the assembly plant, and constituted a considerable expenditure in their initial cost and maintenance. It is a major objective of present improvements to realize a multiple jig table that is particularly adapted for laying out and fabricating building panels of different constructions, thus avoiding the necessity of a different table for each panel construction. This type of fabricating table realizes substantial economies not only in valuable floor space in assembly plant, but also by the possible elimination of the cost and maintenance of a large number of tables.

Another important object is realized by the provision of a plurality of shafts rotatively mounted on the table, the shafts having a plurality of rows of lugs spaced in predetermined positions to locate the studs of a building panel, and means for rotating the shafts to present different cooperating rows of lugs in operative position for fabricating different building panels.

Still another important object is realized by the provision of adjustable stop means on opposite sides of the elongate fabricating table adapted to locate the sill or bearing elements of different sizes of building panels.

Yet another important object is achieved by a shaft-driving mechanism operatively interconnecting the shafts to afford simultaneous rotation incident to conditioning the table for panels of different structures.

Other important advantages and objectives are realized by the provision of roller elements normally located in recesses formed along opposite sides of the table top, and by linkage mechanism and actuating means for raising the roller elements above the table top to lift the building panel incident to removal from the table.

Another important advantage is realized in locating the shafts in spaced elongate recesses formed in the table top, the shafts being located so that cooperating rows of lugs extend above the table top at the same time, whereby to define the stud locations for a particular panel.

The foregoing and numerous other objects and advantages of the invention will more clearly appear from the following detailed description of a preferred embodiment, particularly when considered in connection with the accompanying drawings, in which:

Fig. 1 is a top plan view of the fabricating table, and shows in dotted lines the layout of a particular building panel;

Fig. 2 is a side elevational view of the fabricating table shown in Fig. 1;

Fig. 3 is an enlarged fragmentary view, partly in cross section, as seen along line 3—3 of Fig. 1;

Fig. 4 is a fragmentary perspective view of the rotatable shafts showing the arrangement of lugs in longitudinal rows on the shafts, and showing the driving mechanism;

Fig. 5 is an enlarged fragmentary view, partly in cross section, showing the end connection of a shaft with the driving mechanism as seen along line 5—5 of Fig. 3;

Fig. 6 is an enlarged fragmentary view of the roller support and mounting for the shafts as seen along line 6—6 of Fig. 3;

Fig. 7 is an enlarged fragmentary view, partly in cross section, of the side of the table as seen along line 7—7 of Fig. 1;

Fig. 8 is an enlarged fragmentary view, partly in cross section, of the roller assembly as seen along line 8—8 of Fig. 1, and

Fig. 9 is a fragmentary view of the roller assembly as seen along line 9—9 of Fig. 8.

Referring now by characters of reference to the drawings, and first to Figs. 2 and 3, the multiple jig fabricating table includes elongate sill elements **10** arranged in spaced parallel relation and adapted to rest on a subjacent surface such as a floor. A plurality of legs **11** extend vertically upwardly from sill elements **10**, the legs **11** consisting of a pair of 2 x 4's secured together. Secured to the inner sides of legs **11** along each side of the table are a plurality of longitudinal braces **12** arranged in angular positions as is shown in Fig. 2. From Fig. 3 it is seen that a number of transverse braces **13** have their lower outer ends fastened to legs **11** and have their upper inner ends fastened to a horizontal cross brace **14**. The cross brace **14** is also fastened to legs **11**. Extending longitudinally along each side of the table is an inside collar header **15** (Fig. 3) which is secured to the innermost sides of legs **11**, and an outside collar header **16** secured to the outermost sides of legs **11**.

The table top consists of a blocking **17** supported on cross braces **14** and extending transversely of the table, and a top panel **20** secured to blocking **17** and arranged in a horizontal position as is shown. Additional supports **21** are located between cross bar **14** and top panel **20**.

The top panel **20** and blocking **17** are cut away to provide a pair of transversely spaced recesses **22** arranged in substantially parallel relation, the recesses **22** extending the entire length of the table from one end to the other. As is best shown in Fig. 3, the recesses **22** are defined by a relatively narrow upper portion **23** and by downwardly diverging walls **24** on blocking **17**. In the preferred structure shown, the recesses **22** are particularly located so that there is one such recess **22** extending along each side of the table.

Located at the bottom of each recess **22** and mounted on cross braces **14** are a plurality of roller support assemblies, generally indicated at **25** in Fig. 3 and shown in greater detail by the enlarged view of Fig. 6. The roller support assembly **25** (Fig. 6) includes a pair of right angle plates **26** arranged in spaced parallel relation and secured to cross brace **14** by screws **27**. A pair of rollers **30** is located between right angle plates **26** and is rotatively mounted to plates **26** by bolt and nut assemblies **31**. The rollers **30** are arranged in horizontally spaced relationship and attached to the opposite ends of plates **26**.

Located in each recess **22** is an elongate tubular shaft **32** that is supported by rollers **30** of support assemblies **25**. The shafts **32** extend substantially the length of the table and are arranged so as to be substantially flush with the upper surface of top panel **20**. Each shaft **32** is provided with a plurality of longitudinal rows of lugs **33** extending radially outwardly, there being eight individual rows

in the preferred structure shown. The lugs 33 of each row are spaced in predetermined positions to define the locations of the studs of a building panel. A row of lugs 33 on one shaft 32 cooperates with a row of lugs on the other shaft to define the stud locations.

The shafts 32 are located so that cooperating rows of lugs 33 on the shafts operatively extend above top panel 20 at the same time. For example, referring to Figs. 3 and 4, the shafts 32 are arranged so that cooperating rows indicated by A extend out of recess 22 and above top panel 20 at the same time. By rotating shafts 32 counterclockwise, the other pair of cooperating rows of lugs indicated at B may be brought into operative position above the table top. It will be noted that the lugs 33 in rows A and B are spaced in different predetermined positions, thus defining stud locations for different panels.

A stub shaft 34 (Fig. 1) is located at each end of each recess 22, and is connected to adjacent shaft 32. The structure and mounting of stub shaft 34 and its connection to shaft 32 is more clearly shown in enlarged view (Fig. 5). It is seen that stub shaft 34 is tubular, having the same diameter as elongate shaft 32. The stub shaft is closed by end plate 35, and includes a shaft extension 36 rotatively journalled in mounting plate 37 attached to the end of the table. The shaft extension 36 is provided with a squared outer end portion 40, the purpose of which will later appear.

The stub shaft 34 is provided with a step formation having a horizontal plate 41, and shaft 32 is provided with a mating step formation having a horizontal plate 42 adapted to abut plate 41. A fastening element 43 extends through the step formations, and particularly through the outer wall of shaft 32, the outer wall of stub shaft 34, and through abutting plates 41 and 42, the fastening element 43 effectively securing stub shaft 34 to main shaft 32.

The shafts 32 are provided with a driving mechanism for simultaneously turning the shafts to assure that cooperating rows of lugs 33 will be presented above the table top at the same time. This driving mechanism includes a sprocket 44 operatively mounted on each of shaft extensions 36 as is best illustrated in Figs. 4 and 5. Sprocket chain 45 interconnects sprockets 44 at each end of the table. A crank shown in dotted lines in Fig. 1 may be fitted on squared portion 40 of shaft extension 36, and hence utilized to rotate the pair of shafts 32.

Formed along each side of the table top are a plurality of spaced recesses 46 adapted to receive and contain a roller lifting assembly generally indicated at 47 (Fig. 2), the details of which are more clearly shown by Figs. 8 and 9. The lifting assembly 47 includes a hinge collar 50 secured by screws 51 to inside header 15, and a second hinge collar 52 secured by screws 53 to outside header 16. A hinge pin 54 is rotatively received and mounted in collars 52 and 50. Side links 55 and 56 are secured to hinge pin 54, and are similarly fastened to journal pin 57, the journal pin 57 being held in spaced parallel relationship to hinge pin 54. Rotatively mounted on journal 57 is a roller 60 that is normally located in recess 46 below top panel 20, yet is adapted to be raised above the level of top panel 20 as is shown in the full lines in Figs. 8 and 9.

The side link 56 includes a dogleg lower arm 61, the lower portion of which is fastened by a nut and bolt assembly 62 to a connecting rod 63. It is seen from Figs. 1 and 2 that a connecting bar 63 extends along each side of the table and operatively interconnects the hinged roller assemblies arranged along each side. These connecting rods 63 extend freely through apertures 64 (Fig. 3) formed in cross braces 14. A cross bar 65 (Fig. 1) bridges and operatively interconnects the connecting rods 63, the cross bars 65 being operatively connected to and actuated by an air-operated cylinder 66 located below and carried by the table structure.

As explained previously, the connecting rods 63 are

located so that side link arms 61 move or swing rollers 60 downwardly into recesses 46 and below the table top. Upon actuation of air cylinder 66, the cross bar 65 moves connecting rods 63, and hence swings rollers 60 upwardly above the table top as shown in full lines in Figs. 8 and 9.

A right angle plate 70 is secured to the upper edge of outside header 16 along each side of the table, the right angle plate 70 being located between recesses 46. The right angle plate 70 extends above the level of top panel 20 and serves as a stop to determine the position of the opposed sills of a building panel.

An adjustable stop means is provided to accommodate and determine the positions of sills for building panels of smaller dimensions. The table top is provided with foldable side portions 71 between rollers recesses 46, the foldable side portions 71 being hinged to intermediate top panel 20 by hinge elements 72, as is shown by Figs. 1 and 7. The foldable side portions 71 normally serve as a continuation of top panel 20 as is seen in Fig. 7, the side portions 71 extending to right angle plate 70. When the side portions 71 are disposed as shown in the solid lines of Fig. 7, the right angle plate 70 is utilized to determine the position of the sills of the building panel. When another size building panel is desired to be fabricated on the table, the side portions 71 may be lifted by finger holes 73 and folded over top panel 20 as is shown by the dotted lines in Fig. 7. In this folded position, the ends 74 of the side portions 71 are utilized to determine the sill positions. Of course, it is obvious that the right angle plate 70 may be utilized for this purpose along one side of the table, while the side portions 71 may be folded over the table top along the other side of the table, or the side portions 71 on each side of the table may be utilized to determine the sill positions. Such use depends entirely upon the dimensions of the desired building panel.

It is thought that the function and utility of the multiple jig fabricating table has become apparent from the foregoing detailed description, but for completeness of disclosure it will be noted that the table may be conditioned for fabricating different building panels. First, depending upon the size and type of building panel desired, the sills 75 (Fig. 1) are first located in the proper positions, either against stop plate 70 or against folded side portions 71. In Fig. 1 the example illustrates the sills 75 located against the right angle plate 70 at each side of the table.

Secondly, a crank 76 (Fig. 1) is utilized to turn shafts 32 until the desired cooperating rows of lugs 33 extend above the table top. Then the studs 77 are placed between the lugs 33 on shafts 32, the lugs 33 determining by their spacing how many studs should be utilized, and serving to retain these studs in position. The studs 77 are then quickly secured to sills 75 and the building panel otherwise completed.

When the panel has been fabricated, the cylinder 66 is actuated which raises rollers 60 above the table top. These rollers 60 engage the sills 75 of the building panel and raise the panel above the table top incident to removal.

To condition the table for a panel of different construction, the above outlined steps are again followed. Thus it is seen that this fabricating table may be conveniently utilized for building panels of different constructions and of different sizes.

Although the invention has been described by making detailed reference to a single preferred embodiment, such detail is to be understood in an instructive, rather than in any restrictive sense, many variants being possible within the scope of the claims hereunto appended.

I claim as my invention:

1. In a multiple jig fabricating table for building panels, a table top, a plurality of shafts rotatively mounted on the table below said table top, a plurality of lugs arranged on each shaft in longitudinal rows, the lugs in each row being spaced in predetermined positions to define the loca-

tion of the studs of a different building panel, said shafts being located so that one row of lugs on each shaft operatively extends above the table top at one time, and means for rotating said shafts to present different rows of lugs above said table top for different building panels.

2. In a multiple jig fabricating table for building panels, a table top, a pair of shafts rotatively mounted on the table below said table top, a plurality of lugs arranged on each shaft in longitudinal rows, the lugs in each row on each shaft being spaced in predetermined positions to define the location of the studs of a different building panel, said shafts being located so that one row of lugs on each shaft operatively extends above the table top at one time, means at opposite sides of said table top for locating the sills of the building panel, and means for rotating said shafts to present different rows of lugs above said table top for different building panels.

3. In a multiple jig fabricating table for building panels, a table top, a plurality of elongate recesses in said table top, said recesses being transversely spaced, a plurality of shafts rotatively mounted on the table and located in said recesses below said table top, a plurality of lugs arranged on each shaft in longitudinal rows, the lugs in each row being spaced in predetermined positions, one row of lugs on each shaft cooperating with a row of lugs on each other shaft to indicate the stud location for a building panel, said shafts being located so that cooperating rows of lugs on said shafts operatively extend above the table top at the same time, and means interconnecting said shafts for simultaneously turning the shafts to present different cooperating rows of lugs above said table top for different building panels.

4. In a multiple jig fabricating table for building panels, a table top having opposite sides and opposite ends, a plurality of shafts rotatively mounted on the table below said table top, a plurality of lugs arranged on each shaft in longitudinal rows, the lugs in each row being spaced in predetermined positions, one row of lugs on each shaft cooperating with a row of lugs on each other shaft to define the location of the studs of a building panel, said shafts being located so that cooperating rows of lugs on said shafts operatively extend above the table top at the same time, means at opposite sides of the table top for locating one position of the sills of the building panels, the table top having a portion hinged along one side, said hinged portion being movable to a position over said table top to provide a stop for locating another position of the sill of a building panel, and means for rotating said shafts to present different cooperating rows of lugs above said table top for different building panels.

5. In a multiple jig fabricating table for building panels, a table top having opposite ends, a pair of stub shafts mounted in each end of said table, a pair of elongate shafts extending between the opposed stub shafts located at the ends of the table, means for detachably connecting said stub shaft and said shafts, said shafts being rotatively mounted on the table below said table top, a plurality of lugs arranged on each shaft in longitudinal rows, the lugs in each row being spaced in predetermined positions, one row of lugs on each shaft cooperating with a row of lugs on the other shaft to define the location of studs of a building panel, said shafts being located so that cooperating rows of lugs on said shafts operatively extend above the table top at the same time, and means for rotating said shafts to present different cooperating rows of lugs above said table top for different building panels.

6. In a multiple jig fabricating table for building panels, a table top having opposite ends, a pair of stub shafts rotatably mounted at each end of said table top, a pair of shafts extending between the stub shafts disposed at the opposite ends of the table, a step formation on each stub shaft, coacting step formations on each shaft, the step formations on the shafts interfitting the step formations on the stub shafts, a fastening element extending through said step formations to secure detachably said stub shafts to said shafts, roller means supporting the length of each shaft, said shafts being rotatively mounted below said table top, a plurality of lugs arranged on each shaft in longitudinal rows, the lugs in each row being spaced in predetermined positions, a row of lugs on one shaft cooperating with a row of lugs on the other shaft to define the location of the studs of a building panel, said shafts being located so that cooperating rows of lugs on said shafts operatively extend above the table top at the same time, and means for rotating said shafts to present different cooperating rows of lugs above said table top for different building panels.

7. In a multiple jig fabricating table for building panels, an elongate table top having opposite sides and opposite ends, a pair of elongate recesses in said table top spaced inwardly from said sides and extending from one end of the table top to the other end, said elongate recesses being transversely spaced in substantially parallel relation, a stub shaft mounted on said table at each end of each elongate recess, an elongate shaft located in each elongate recess and extending between the stub shafts disposed at the ends of said recess, means for detachably connecting said stub shafts and said shafts, a plurality of lugs arranged on each shaft in longitudinal rows, the lugs in each row being spaced in predetermined positions, a row of lugs on one shaft cooperating with a row of lugs on the other shaft to define the location of the studs of a building panel, said shafts being arranged so that cooperating rows of lugs on said shafts operatively extend above the table top at the same time, a sprocket carried by each stub shaft, sprocket chains interconnecting the sprockets at each end of the table, means for turning at least one of said stub shafts so as to rotate both shafts simultaneously to present different rows of lugs above said table tops for different building panels, a plurality of spaced roller recesses along opposite sides of the table top, rollers disposed in said recesses and normally located below said table top, means for raising said rollers above said table top so as to lift the building panel incident to removal from the table, the table top having side portions hinged between said roller recesses, said hinged side portions being movable to a position over said table top to provide an adjustable stop for locating different positions of the sills of a building panel.

8. In a multiple jig fabricating table for building panels, a table top, a plurality of elongate recesses in said table top, said recesses being transversely spaced, a plurality of shafts rotatively mounted on the table and located in said recesses below said table top, a plurality of lugs arranged on each shaft in longitudinal rows, the lugs in each row being spaced in predetermined positions, one row of lugs on each shaft cooperating with a row of lugs on each other shaft to indicate the stud location for a building panel, said shafts being located so that cooperating rows of lugs on said shafts operatively extend above the table top at the same time, means interconnecting said shafts for simultaneously turning the shafts to present different cooperating rows of lugs above said table top for different building panels, cross braces extending transversely on said table below said table top, and a plurality of roller supports mounted on said braces, said shafts being rotatively mounted on said roller supports.

References Cited in the file of this patent

UNITED STATES PATENTS

694,467	Fuller	Mar. 4, 1902
2,262,827	Wilson et al.	Nov. 18, 1941
2,626,643	Kantzler	Jan. 27, 1953
2,662,565	Le Vay	Dec. 15, 1953