

W. R. RIPLEY.
 ASSEMBLING TABLE FOR CONICAL STAVE PORCH COLUMNS.
 APPLICATION FILED JULY 17, 1911.

1,024,147.

Patented Apr. 23, 1912.

5 SHEETS—SHEET 1.

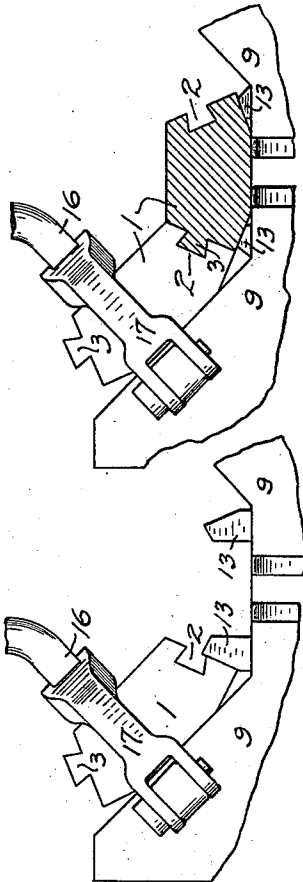


Fig. 3.

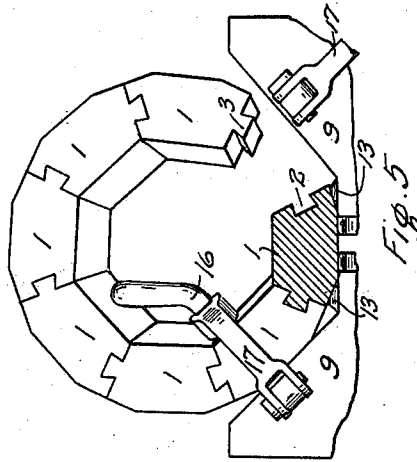


Fig. 5.

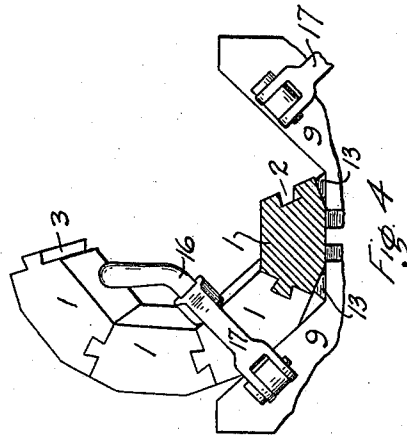


Fig. 4.

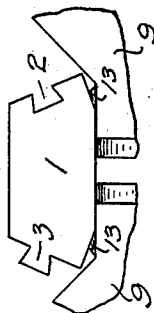


Fig. 1.

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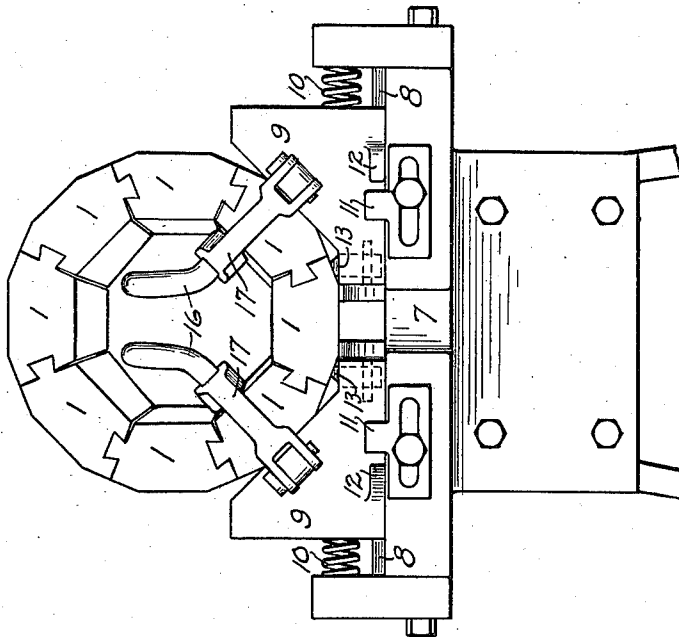


Fig. 7

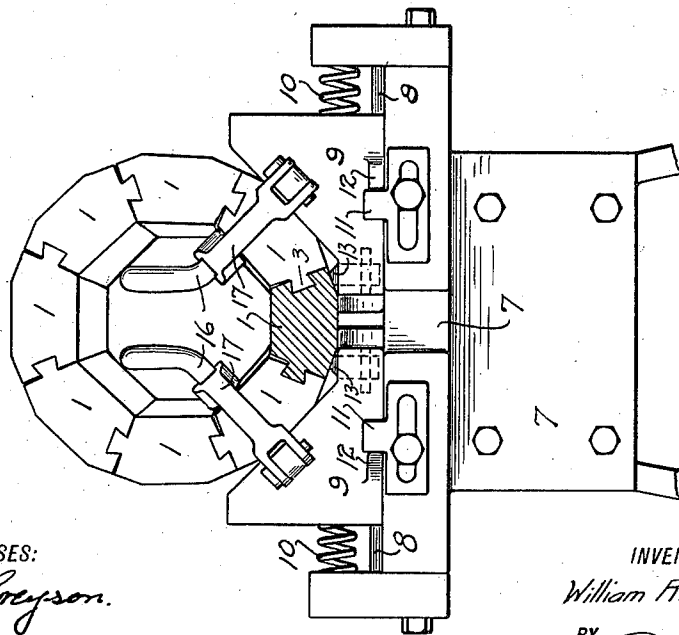


Fig. 6

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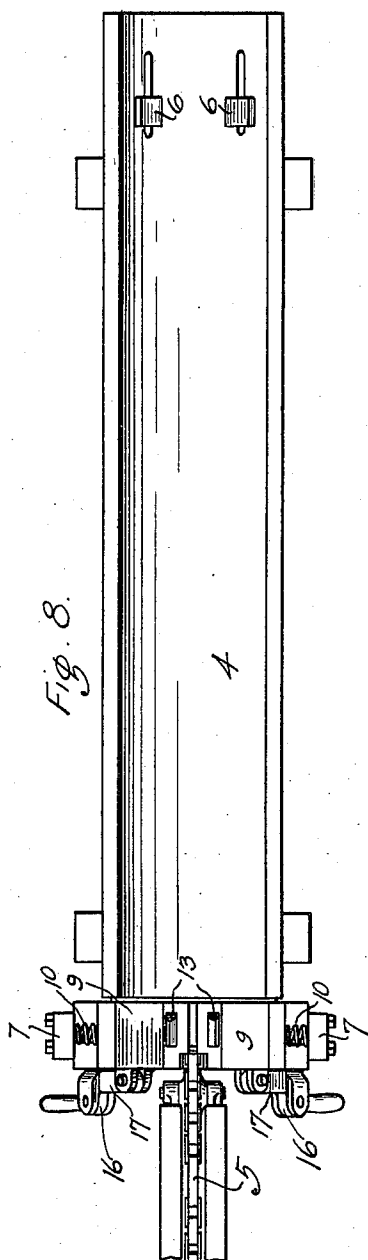


Fig. 8.

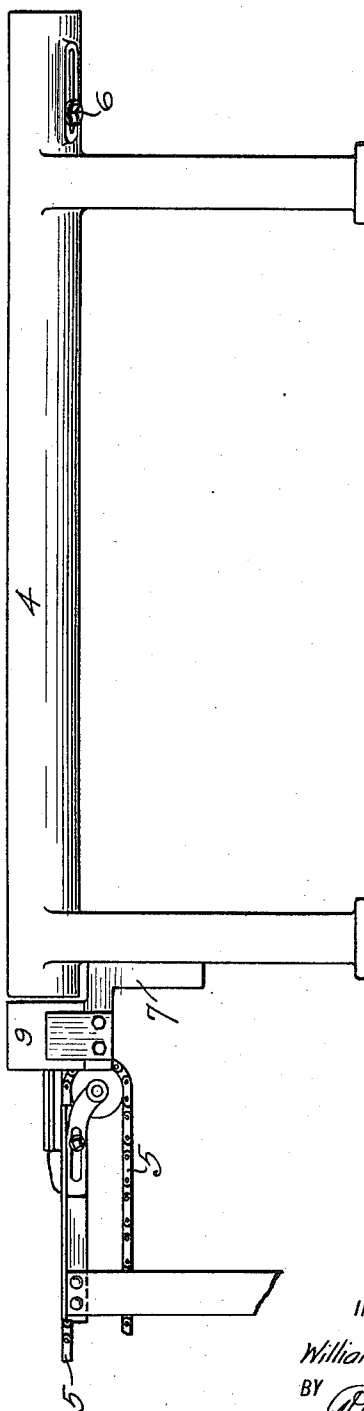


Fig. 9.

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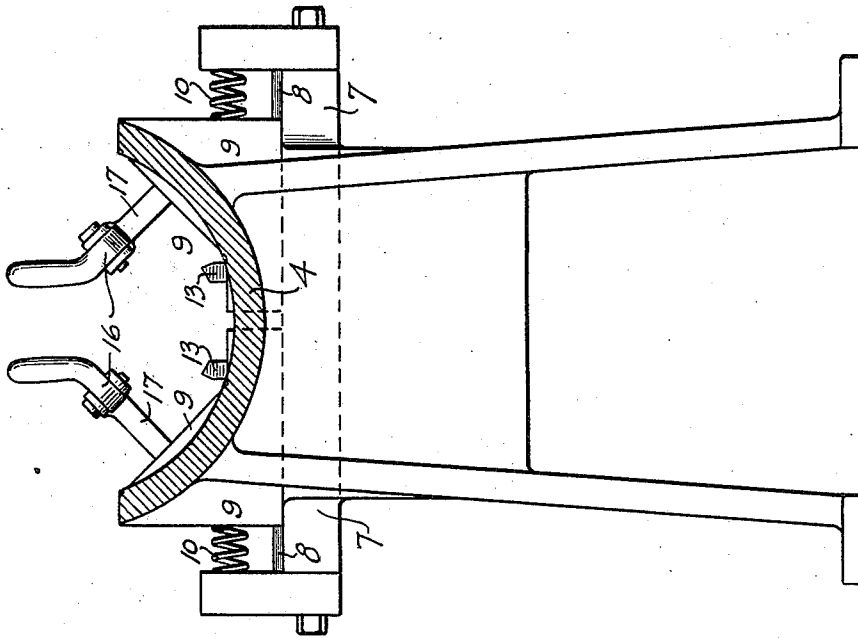


Fig. 11.

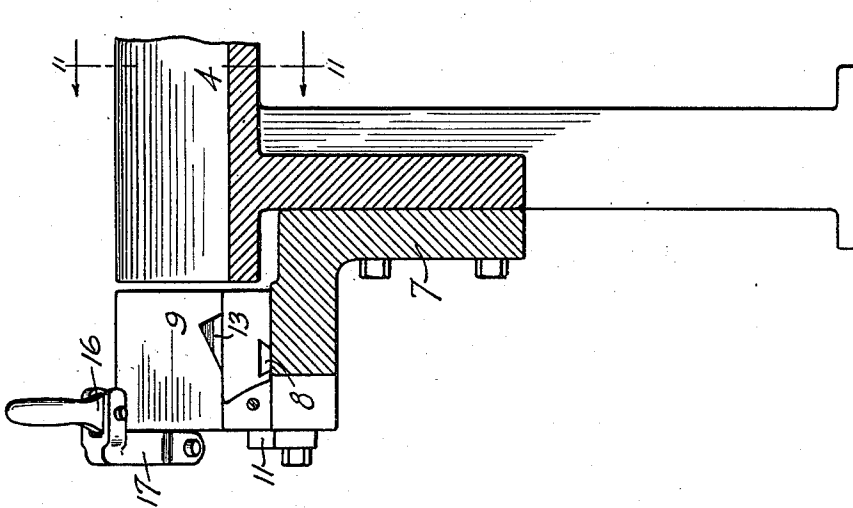


Fig. 10.

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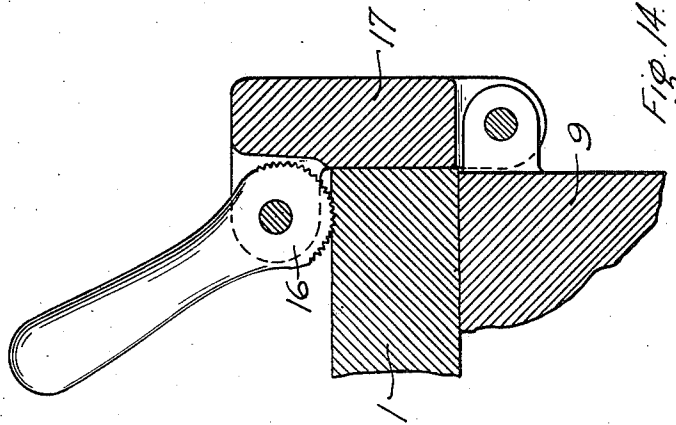
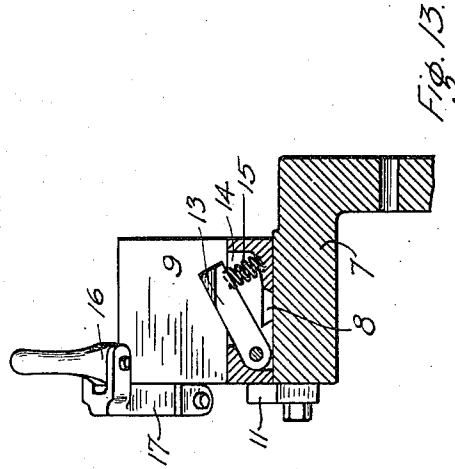
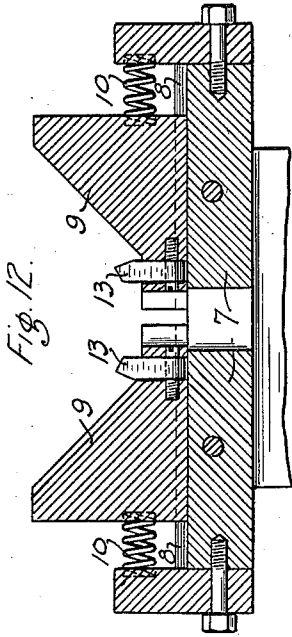
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5 SHEETS—SHEET 5.



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UNITED STATES PATENT OFFICE.

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ASSEMBLING-TABLE FOR CONICAL STAVE PORCH-COLUMNS.

1,024,147.

Specification of Letters Patent.

Patented Apr. 23, 1912.

Application filed July 17, 1911. Serial No. 638,847.

To all whom it may concern:

Be it known that I, WILLIAM R. RIPLEY, a citizen of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented a new and useful Assembling-Table for Conical Stave Porch-Columns, of which the following is a specification.

This invention relates to improvements in assembling tables for conical columns, and has for its objects to provide means whereby a built up wooden conical column, in which all the staves are secured together by mechanical interlocking may be constructed. I attain these and other objects by the devices, mechanisms, and arrangements illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of the first stave as it is received on the assembling table from the planing machine; Fig. 2 is a similar view of said first stave placed in position on the assembling table to be engaged by the approaching second stave; Fig. 3 is a similar view showing the second stave in section and just entering engagement with said first stave; Fig. 4 is a similar view showing the fourth stave in section and just entering engagement with the third stave; Fig. 5 is a similar view showing the seventh stave in section and just entering engagement with the sixth stave; Fig. 6 is an end elevation of the machine showing the eighth, or last, stave in section and just entering engagement with the first and with the seventh staves; Fig. 7 is a similar view showing the said eighth stave pushed home to position and the column expanded and completed; Fig. 8 is a plan of the assembling table; Fig. 9 is a side elevation thereof; Fig. 10 is a vertical longitudinal section of the receiving end thereof; Fig. 11 is a cross-section thereof, taken on the line 11—11 in Fig. 10; Fig. 12 is a cross-section of the sliding head-blocks of said table; Fig. 13 is a longitudinal section thereof; and Fig. 14 is a section of the stave clamp in operation.

Similar numerals of reference refer to similar parts throughout the several views.

Wooden stave porch columns are usually constructed by gluing a number of similar tapered staves together, thus producing a conical column which is later turned to shape. This method has several objections, in that it is necessary to use glue in its construction, and this glue presses out through

the joints and hardens on the outside of the column thus making it more difficult to satisfactorily finish off the column. Further, the glue is liable to be affected by changes in climate between the manufacturing point and the place where it is used, as well as changes in weather and other conditions, and the warping of a glued column soon destroys the column. The manufacturing of a glued column requires that the staves be clamped together while the glue is hardening, this entails a great loss of time and some form of clamps must be used to attain the desired compression. The clamps become easily broken and useless thus making an additional expense in providing new clamps and in delays occasioned by the breakage. And, in order to secure the proper amount of glue on the glued surfaces, great care must be exercised.

By making my improved column so that each stave is dove-tailed to its adjacent staves I do not need to use glue to hold the staves together, and by forming each stave of such a bevel that when the column is completed the staves are slightly separated at their inner joints and are tightly compressed at their outer joints I place the parts under sufficient strain that their outer joints will not open and when the column is turned to shape in the lathe, the joints will still be tightly pressed together.

Referring now to the drawing, it will be observed that the column therein illustrated is made of eight similar staves 1, though it is understood that other number of staves may be used if desired. Each stave is tapered longitudinally, except as to thickness, and has its sides, which come in contact with the other staves, beveled and one of said beveled sides is provided with a dove-tail groove 2 along its entire length while the other side is provided with a dove-tail tenon 3 adapted to fit in the said dove-tail groove of the next adjacent stave.

The method by which the staves are secured together is illustrated in Figs. 1 to 7, inclusive, and may be briefly described as follows:—The staves are fed on to the assembling table 4 by means of a chain 5, or other suitable conveyer, by which they are forced endwise thereon, the narrow end thereof being forward; as soon as the first stave has been thus provided (Fig. 1) it is placed to one side on a sidewise-inclined support (Fig. 2) and is held in such posi-

tion thereon that as the narrow end of the second stave approaches, the dove-tail tenon 3 thereon will fit in the corresponding groove 2 of the said first stave (Fig. 3); as the second stave is forced forward the first stave is forced sidewise because of the increasing width of the said second stave; the two staves are thus secured together and then the second stave is placed in the position formerly occupied by the first stave, and the third stave is then similarly secured thereto; thus the column is built up until all but one of the staves are secured together; then, the first and seventh staves having reached the positions shown in Fig. 6, they are locked in such position that they are separated from each other only by the width of the small end of a stave, and the eighth stave is then brought into position so that its tenon enters the groove 2 of the seventh stave and so that its groove 2 encompasses the tenon 3 of the first stave, and it is then forced home, separating the said first and seventh staves as it advances and expanding the diameter of the assembled body and closing the outer joints thereof (Fig. 7).

The assembling table comprises a longitudinal trough 4, preferably curved (Fig. 11) in cross-section and suitably supported in line with the conveying chain 5 which delivers the staves 1 thereto. Suitable end stops 6 are adjustably mounted near the end of the trough 4, on each side of the center, in such position as to be engaged by the staves into engagement with which a new stave is being forced. At the receiving end of the table is secured a bracket 7 having short dove-tail tenons 8 formed on its upper face in line with each other. Two head-blocks 9 are supported by the said upper face of the bracket 7, and engage the tenons 8 by suitable grooves formed therein, said head-blocks being free to slide transversely of the machine on said tenons 8. The head-blocks 9 are pressed toward the central axis of the table by means of the two springs 10 engaging them and the bracket 7. The motion of the said head-blocks 9, toward the central axis of the table, is limited by means of the adjustable stops 11 (Figs. 6 and 7) secured to the bracket 7 and engaged by lugs 12 formed on the said head-blocks 9. Each head-block 9 carries a gage stop 13, pivoted thereto in such a manner that when it is engaged by the advancing stave it will be depressed into a suitable cavity 14 in the head-block 9, the said stop 13 being pushed upward by a spring 15. The gage 13 is shaped and positioned so as to form a stop against which the side of the displaced stave may rest and which will cause the said stave to then be in position for the narrow end of the advancing stave to engage it as above described, the said lugs 12 being in engagement with the stops

11. As soon as the said staves are in engagement there is no need for the gage stop and it is withdrawn by being pressed down by the advancing staves. The staves are clamped to the head-blocks by means of the eccentric clamps 16, mounted on the links 17, which are pivoted to the head-blocks 9 so that they may be withdrawn from clamping position when not in use (Figs. 4, 5 and 8).

Having described my invention, what I claim is:

1. In an assembling table for conical stave columns, the combination of a table adapted to support three staves side-by-side, but lying in planes at an angle to each other; of two transversely yielding head-blocks at the receiving end of said table; and means for clamping the two side staves to said head-blocks, whereby said staves may be held in position while the middle stave is being inserted therebetween.

2. In an assembling table for conical stave columns, the combination of a table adapted to support three staves side-by-side but lying in planes at an angle to each other; of two transversely yielding head-blocks at the receiving end of said table; pivoted gage stops mounted on said head-blocks and each adapted to support the edge of the side staves to bring them to position; and means for clamping the two side staves to said head-blocks, whereby said staves may be held in position while the middle stave is being inserted therebetween.

3. In an assembling table for conical stave columns, the combination of a table adapted to support three staves side-by-side but lying in planes at an angle to each other; a bracket secured to the receiving end of said table; two transversely movable head-blocks mounted on said bracket; springs pressing said head-blocks toward the central axis of the table; adjustable stops mounted on said bracket and engaging lugs on said head-blocks, limiting the motion of the head-blocks toward the central axis; and means for clamping the two side staves to said head-blocks, whereby said staves may be held in position while the middle stave is being inserted therebetween.

4. In an assembling table for conical stave columns, the combination of a table adapted to support three staves side-by-side but lying in planes at an angle to each other; a bracket secured to the receiving end of said table; two transversely movable head-blocks mounted on said bracket; springs pressing the head-blocks toward the central axis of the table; adjustable stops mounted on said bracket and engaging lugs on said head-blocks, limiting the motion of the head-blocks toward the central axis; pivoted gage stops mounted on said head-blocks and each adapted to support the edge

of the side staves to bring them to position;
and means for clamping the two side staves
to said head-blocks, whereby said staves may
be held in position while the middle stave
5 is being inserted therebetween.

5. In an assembling table for conical stave
columns, the combination of a table adapted
to support three staves side-by-side, but
lying in planes at an angle to each other;
10 of two transversely yielding head-blocks at
the receiving end of said table; means for

clamping the two side staves to said head-
blocks, whereby said staves may be held in
position while the middle stave is being in-
serted therebetween; and a conveying chain 15
adapted to force the middle stave longitudi-
nally between said side staves.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."