

Aug. 27, 1946.

A. B. LANK

2,406,387

METHOD OF MAKING WOODEN POST CONSTRUCTION

Filed Jan. 7, 1944

2 Sheets-Sheet 1

Fig. 1.

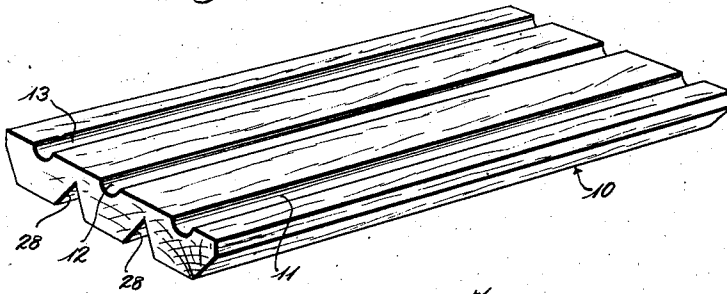


Fig. 2.

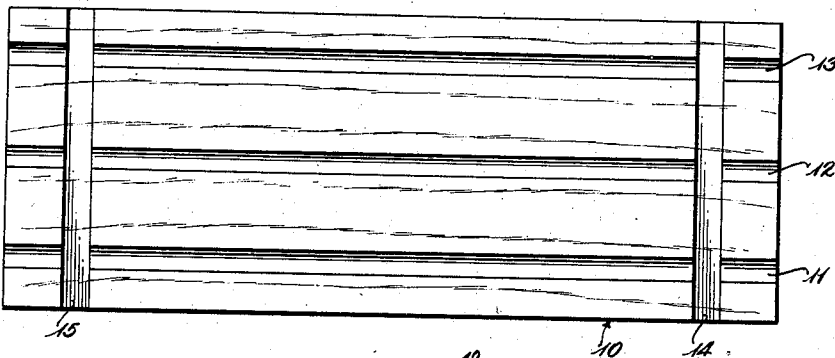


Fig. 3.

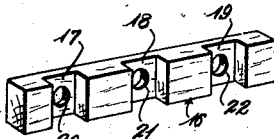
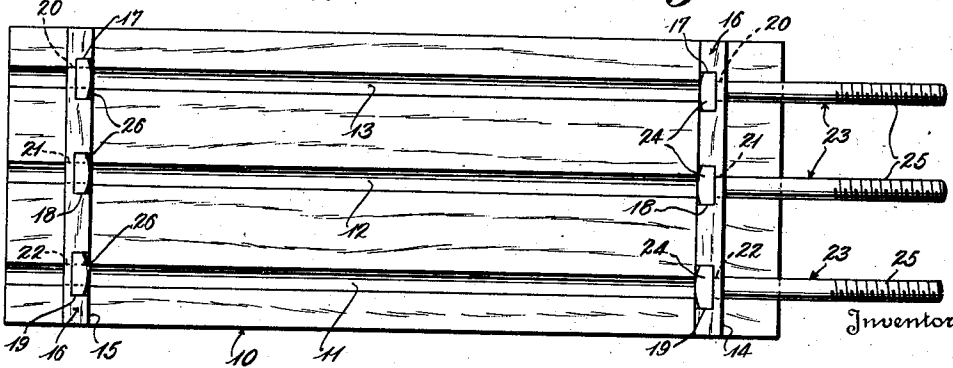


Fig. 4.



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2 Sheets-Sheet 2

Fig. 5.

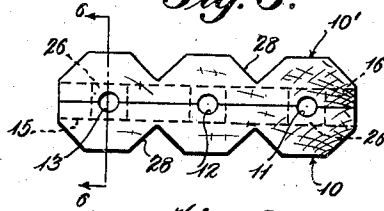


Fig. 6.

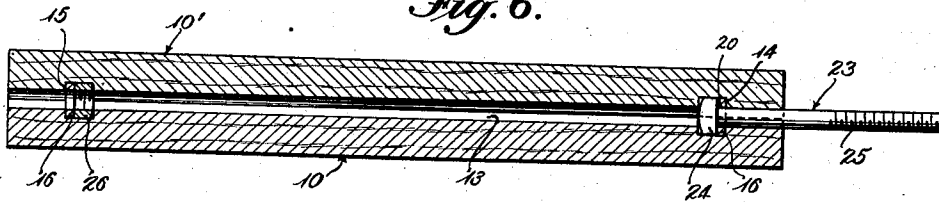


Fig. 7.

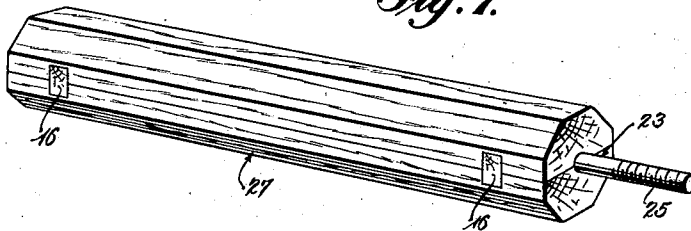


Fig. 8.

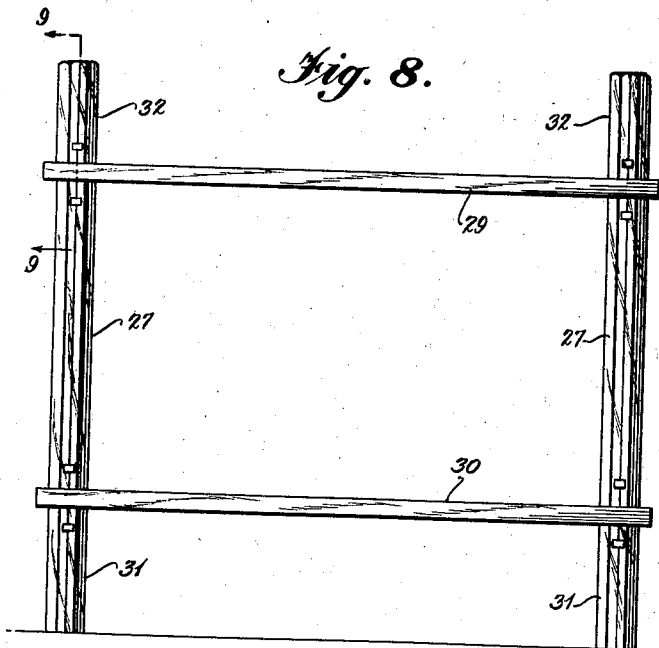
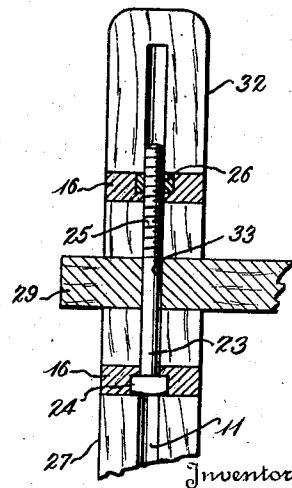


Fig. 9.



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METHOD OF MAKING WOODEN POST CONSTRUCTION

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5 Claims. (Cl. 144—309)

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This invention relates to wooden post constructions and to a method of making the same. Wooden posts of the type to which the invention relates have considerable utility in wooden knock-down furniture, such as shelving, bookcases, store furniture, and the like. The post constructions are also useful as brace members, as detachable legs for various items of furniture, and in any other situations in which it is desirable to have wooden members which are readily secured in position and easily removable without the use of tools. In the specification and claims, I refer to all such constructions as "posts," this being a convenient generic term.

In United States Letters Patent No. 2,158,291, for "Post construction," issued to me on May 16, 1939, I have described and claimed a wooden post structure made up of two blanks which are appropriately milled and bonded together with connector elements between them in a manner to provide convenient means for connecting the posts in end-to-end relationship. Posts of the type shown in that patent have proven to be very useful for their intended purposes and have gone into extensive commercial use. With the increased commercial use of the posts shown in my patent, there has arisen a definite need for a method of making such posts which would speed up their production and reduce the amount of labor required, with a consequent reduction in the cost. The present application describes and claims a method for constructing posts which accomplishes the foregoing objectives.

For a complete understanding of my invention, reference is had to the following detailed description taken in connection with the accompanying drawings, in which:

Figure 1 is a perspective view of one of two wooden blanks which are required in the making of a plurality of posts, the blank being shown with longitudinal grooves formed in the upper face thereof;

Figure 2 is a top plan view of the blank shown in Figure 1 after the step of forming a transverse groove adjacent each end thereof;

Figure 3 is a perspective view of a connector retaining member;

Figure 4 is a top plan view of the wooden blank shown in Figure 2 with a connector retaining member in each transverse groove thereof and with connector elements in appropriate positions;

Figure 5 is an end elevation view showing two of the wooden blanks in assembled relationship;

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Figure 6 is a longitudinal sectional view taken in the direction of the arrows along the line 6—6 of Figure 5;

Figure 7 is a perspective view of one of the completed posts which are obtained by severing the assembled blanks;

Figure 8 is a front elevation view of an item of furniture, showing one manner in which posts constructed in accordance with the present invention may be used; and

Figure 9 is a sectional view taken in the direction of the arrows along the line 9—9 of Figure 8.

Two identical wooden blanks are provided, one of which is shown in Figure 1 and designated generally by the reference numeral 10. A plurality of longitudinally-extending grooves are formed in one side of the blank 10. Three such grooves are shown and are designated by the reference numerals 11, 12 and 13. It will be understood that the number of longitudinal grooves may be increased or decreased according to the width of the blank and according to the spacing of the grooves. The next step is the forming of transverse grooves 14 and 15 adjacent the ends of the longitudinally grooved side of the blank 10. The transverse grooves 14 and 15 intersect the longitudinal grooves 11, 12 and 13, all grooves lying in the same general plane. The transverse grooves may, of course, be formed prior to the forming of the longitudinal grooves if desired.

I next provide a connector retaining member for each transverse groove. One such member is shown in Figure 3 and is designated generally by the reference numeral 16. The height of this connector retaining member should be equal to twice the depth of one of the transverse grooves and its width should be equal to the width of the transverse groove. The connector retaining member 16 is provided with a plurality of recessed seats 17, 18 and 19, the number and spacing of which conform to the number and spacing of the longitudinal grooves in the blank 10. The seats 17, 18 and 19 are provided with centrally positioned apertures 20, 21 and 22 respectively, the purpose of which will be apparent as the description proceeds.

A connector retaining member 16 may then be placed in each transverse groove 14 and 15 of one of the blanks 10, these connector retaining members having connector elements positioned in their seats in the manner most clearly shown in Figure 4. I have shown male connector elements in the form of commercial bolts 23, having square heads 24 which are positioned in the recessed seats 17, 18 and 19 of the connector retaining

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member 16. The bolts 23 have threaded shanks 25 which pass through the apertures 20, 21 and 22 of the connector retaining member 16 and extend beyond the end of the blank 10. At the opposite end of the blank 10 a connector retaining member 16 has female connector elements positioned in its recessed seats 17, 18 and 19. These female connector elements are shown as square commercial nuts 26, having their threaded openings in axial alignment with the longitudinal grooves of the blank 10. It is preferable for the nuts 26 to have the same general configuration and dimensions as the heads 24 of the bolts 23. Under such circumstances, the connector retaining members 16 may be standardized as to all dimensions and a bolt and nut may be used interchangeably with any connector retaining member. It is not necessary that all of the bolts 23 be placed in one connector retaining member and all of the nuts 26 in another connector retaining member, it being obvious that this arrangement may be changed at will or according to the types of connectors which it is desired to have at the ends of the final posts.

A second wooden blank 10', which is in all respects similar to the wooden blank 10, is positioned with its grooved face or side against the grooved side of the blank 10 in the manner best shown in Figure 5 and the blanks 10 and 10' are then glued together or otherwise bonded. As is best shown in Figure 6, the connector retaining members, with their associated connector elements, fill the transverse grooves in the blanks 10 and 10'. The longitudinal grooves in the blanks provide bores for the shanks 25 of the bolts 23.

The bonded assembly is next severed along lines parallel to and intermediate the longitudinal grooves in the blanks to form a plurality of individual posts. This severing is preferably done by a sawing operation, and it will be evident that the connector retaining members 16 are also severed. One of the resulting individual posts is shown in Figure 7 and is designated generally by the reference numeral 27.

The cross-sectional shape of the final posts may be made to assume any desired form. I have found it convenient to make these posts octagonal in cross section and this is best accomplished by providing V-shaped grooves in the sides of the blanks opposite the longitudinal grooves 11, 12 and 13. The proper position for these grooves, which are designated by the reference numeral 28 are best shown in Figures 1 and 5 of the drawings. If the assembly is then severed along these grooves 28, octagonal posts such as that shown in Figure 7 are formed. However, it will be obvious that the posts may be made square or that the individual posts may be turned in a lathe without departing from the essential features of my invention.

In Figure 8, I have shown an example of one field of utility of my posts. As shown in this figure, an item of furniture has upper and lower shelves 29 and 30, which are held in spaced relationship by posts 27. Below the shelf 30, short posts 31 are provided. These posts 31 may be constructed in the same general manner which I have described above, but since there is no necessity for connector elements at the lower ends of these posts, one pair of transverse grooves with their associated connector retaining members and connector elements may be entirely eliminated.

It is also advisable, in order to secure the upper shelf 29 in position and to provide a more at-

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tractive appearance, to use cap posts 32. Here again there is no necessity for connector elements at one end of the cap posts 32 so these may be made in a manner as above described in connection with the making of the posts 31.

As shown in Figure 9, holes 33 are drilled in the shelves in order that the shanks 25 of the bolts 23 may pass through the shelves. The height of the assembly shown in Figure 8 may be increased merely by providing additional posts 27 and additional shelves.

From the foregoing detailed description, it will be seen that I have provided a method for making posts of this general type which greatly speeds up production and eliminates much of the labor costs incident to such production. By standardizing the wooden blanks and the connector retaining members, I can make up large quantities of these component parts of the posts preparatory to the assembling, bonding and severing operations.

The foregoing detailed description is intended to be exemplary only and it is obvious that various changes may be made without departing from the general principles of the invention. In the specification and claims, I describe the various steps of producing the posts in a particular order, but my invention should not be regarded as limited to such sequence of steps, since these steps may be performed in any order found most convenient under the particular circumstances.

Having thus described my invention, I claim:

1. The method of constructing a plurality of wooden posts each of which has a connector element incorporated therein adjacent each end thereof which method comprises forming a plurality of longitudinally extending grooves in one side of each of a pair of wooden blanks from which the posts are to be formed, forming a transverse groove adjacent each end of said side of each of said blanks with the transverse grooves intersecting the longitudinal grooves, providing a pair of connector retaining members with a plurality of seats for receiving connector elements, the number and spacing of said seats in each of said connector retaining members conforming to the number and spacing of the longitudinal grooves in each of said blanks, placing connector elements in each of said seats, positioning said blanks with their grooved sides together and with said connector retaining members in said transverse grooves, bonding said blanks together, and severing the thus bonded assembly along longitudinal lines intermediate said longitudinal grooves.

2. The method of constructing a plurality of wooden posts each of which has a connector element incorporated therein adjacent one end thereof which method comprises forming a plurality of longitudinally extending grooves in one side of each of a pair of wooden blanks from which the posts are to be formed, forming a transverse groove adjacent one end of said side of each of said blanks with the transverse groove on each blank intersecting the longitudinal grooves on the same blank, providing a connector retaining member with a plurality of seats for receiving connector elements, the number and spacing of said seats conforming to the number and spacing of said longitudinal grooves in each of said blanks, placing connector elements in each of said seats, positioning said blanks with their grooved sides together and with said connector retaining member in said transverse grooves,

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bonding said blanks together, and severing the thus bonded assembly along longitudinal lines intermediate said longitudinal grooves.

3. The method of constructing a plurality of wooden posts each of which has a connector element incorporated therein adjacent one end thereof which method comprises forming a plurality of longitudinally extending grooves in one side of each of a pair of wooden blanks from which the posts are to be formed, forming a transverse groove adjacent one end of said side of each of said blanks with the transverse groove on each blank intersecting the longitudinal grooves on the same blank, positioning a plurality of connector elements in a connector retaining member in spaced relationship corresponding to the spacing of said longitudinal grooves, placing said blanks with their grooved sides together with said connector retaining member in said transverse grooves and with one of said connector elements aligned with each longitudinal bore formed by said longitudinal grooves, bonding said blanks and said connector retaining member in the thus assembled relationship, and severing the assembly along longitudinal lines intermediate said longitudinal grooves.

4. The method of constructing a plurality of wooden posts each of which has a male connector element incorporated therein adjacent one end thereof and a female connector element incorporated therein adjacent the opposite end thereof which method comprises forming a plurality of longitudinally extending grooves in one side of each of a pair of wooden blanks from which the posts are to be formed, forming a transverse groove adjacent each end of said side of each of said blanks with the transverse grooves intersecting the longitudinal grooves, providing a pair of connector retaining members with a plurality of seats for receiving connector elements, the

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number and spacing of said seats in each connector retaining member conforming to the number and spacing of the longitudinal grooves in each of said blanks, placing an equal number of male and female connector elements in said seats, positioning said blanks with their grooved sides together and with one of said connector retaining members in each complementary pair of said transverse grooves, the arrangement being such that a male connector element and a female connector element are provided for each longitudinal groove, bonding said blanks together and severing the thus bonded assembly along longitudinal lines intermediate said longitudinal grooves.

5. The method of constructing a wooden post having a male connector element incorporated therein adjacent one end thereof and a female connector element incorporated therein adjacent the opposite end thereof which comprises forming a longitudinally extending groove in one side of each of a pair of wooden blanks from which the post is to be formed, forming a transverse groove adjacent each end of said side of each of said blanks with the transverse grooves in each blank intersecting the longitudinally extending groove in the same blank, providing each of a pair of connector retaining members with a recessed seat for receiving one of said connector elements, placing a male connector element in the recessed seat of one of said connector retaining members, placing a female connector element in the recessed seat of the other of said connector retaining members, positioning said wooden members with their grooved sides together and with a connector retaining member in each pair of complementary transverse grooves, and bonding said wooden members together.

ALVIN B. LANK.