Sept. 13, 1938. E. A. FORCIEA 2,130,231

LOG CABIN STRUCTURE

Filed May 9, 1935 2 Sheets-Sheet 1

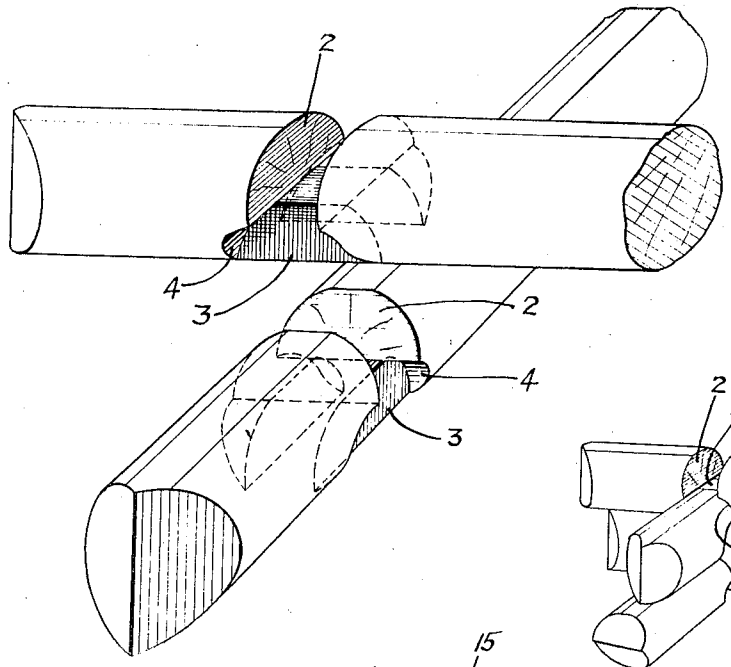

FIG. 1

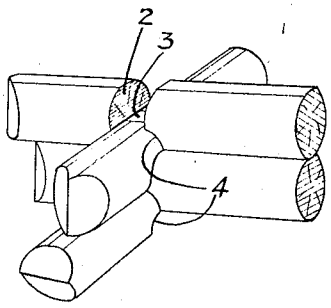

FIG. 2

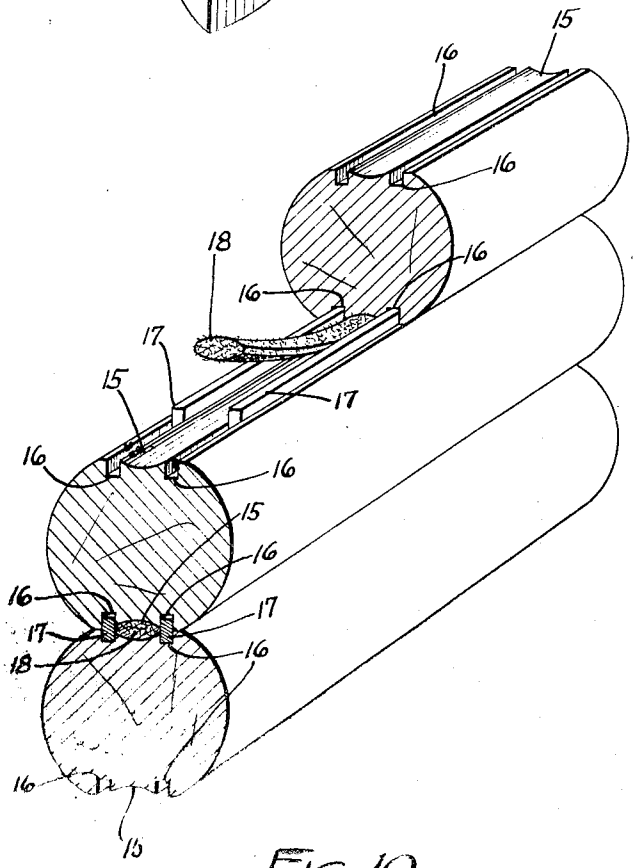

FIG. 10

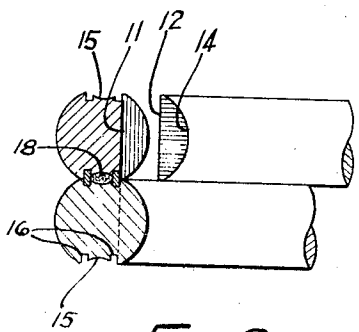

FIG. 9

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LOG CABIN STRUCTURE

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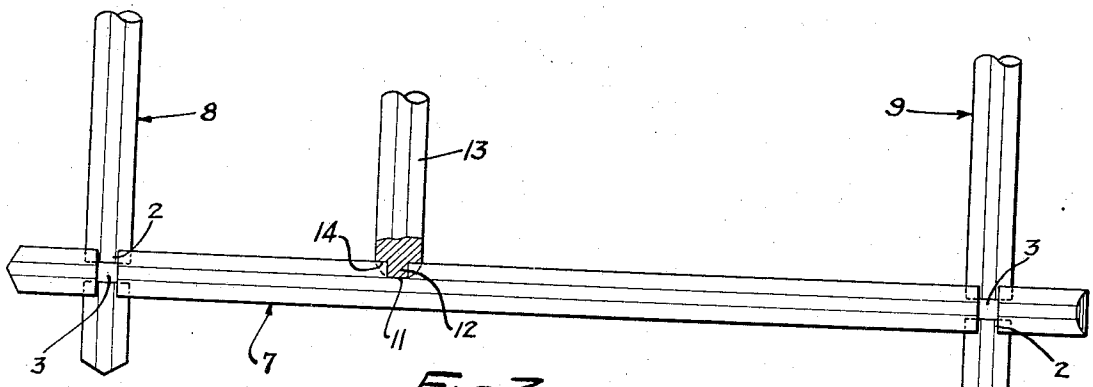

FIG. 3

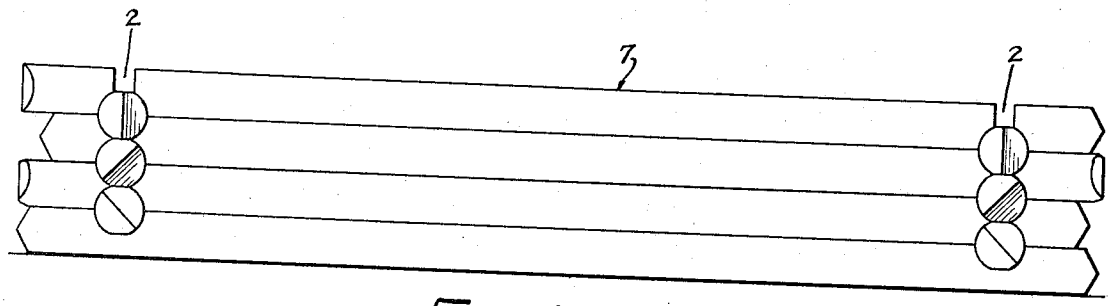

FIG. 4

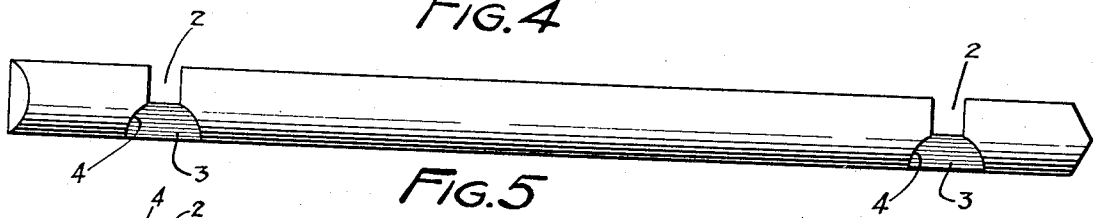

FIG. 5

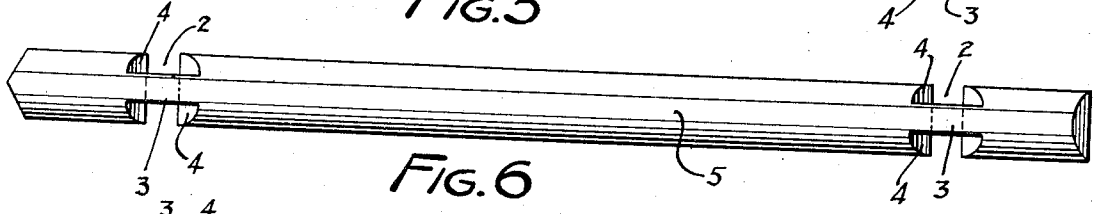

FIG. 6

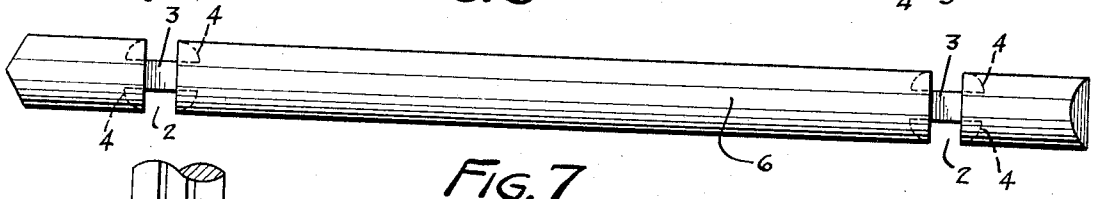

FIG. 7

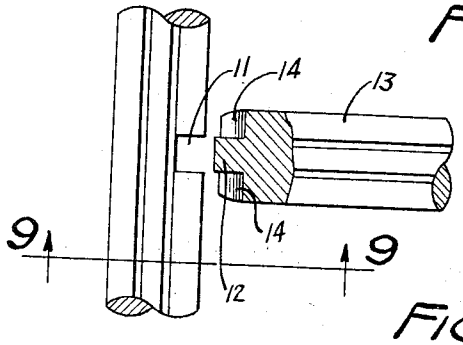

FIG. 8

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2,130,231

LOG CABIN STRUCTURE

Ernest A. Forclea, Minneapolis, Minn.

Application May 9, 1935, Serial No. 20,622

1 Claim. (Cl. 20—1)

This invention relates to new and useful improvements in log-cabin structures.

An object of the invention is to provide a log cabin structure or building in which the walls are composed of logs arranged one upon the other in horizontal relation, and suitably interlocked at the corners of the building, whereby the logs are retained in operative positions without the use of separate securing means.

A further object is to provide a log cabin in which the logs constituting the walls of the structure are substantially alike in configuration, and are suitably interlocked at the corners of the building, and a suitable sealing means being provided between adjacent logs to seal the joints therebetween.

A further object is to provide a log cabin composed of log members arranged one upon another in intersecting relation at the corners of the structure, and each log member being provided with transverse slots or grooves adjacent its ends adapted to receive longitudinally extending ribs provided on other logs arranged in intersecting relation thereto at the corners of the structure, and whereby the joints between the logs at the corners of the building will be substantially sealed.

Other objects of the invention reside in the particular construction of the logs at the corners of the building whereby the logs are identical in construction, each including a transverse slot or recess and a longitudinally extending tongue, which tongues are received in the transverse recesses or slots in the underlying logs; in the sealing means provided between contiguous logs, whereby the joints therebetween are sealed to prevent circulation of air therethrough; and, in the concaved recesses formed in each log adapted to seat against the contour of a sublying log member, whereby the projecting ends of the logs at the corners of the structure will be disposed in contacting relation.

Other objects of the invention will appear from the following description and accompanying drawings and will be pointed out in the annexed claim.

In the accompanying drawings there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown as various changes may be made within the scope of the claims which follow.

In the drawings:

Figure 1 is a detail view showing the ends of two log members disposed in intersecting relation, with the tongue of the upper log about to be inserted into the transverse recess of a sublying log member;

Figure 2 is a perspective view showing a portion of a corner structure and the manner in which the logs are interlocked with one another;

Figure 3 is a plan view of a portion of a structure showing the intersecting relation of the logs at the corners thereof;

Figure 4 is a view showing a side elevation of the lower portion of a wall structure;

Figure 5 is a view showing a side elevation of a single log member to more clearly illustrate the concaved recesses provided adjacent the longitudinally extending tongues thereof;

Figure 6 is a bottom view of Figure 5;

Figure 7 is a plan view of Figure 5;

Figure 8 is a detail sectional view showing the manner of interlocking the ends of inner wall log members with the outer wall log members to provide inner walls or partitions;

Figure 9 is a detail sectional view on the line 9—9 of Figure 8; and

Figure 10 is an enlarged detail sectional view showing the novel sealing means provided between the logs for sealing the joints therebetween.

One of the important features of the present invention resides in the means provided adjacent the ends of each log, whereby the logs at the corners of the structure may be interlocked in intersecting relation, and whereby the joints between the logs are substantially leak-proof.

As clearly illustrated in Figures 1 and 5, each log is provided with a transverse recess 2 adjacent each end thereof, shown disposed directly over longitudinally extending tongues 3, formed by cutting away portions of the material of the log at opposite sides thereof to provide concaved recesses 4. The curvature of the recesses 4 corresponds substantially to the curvature of the periphery of the logs, so that when the tongues 3 of a log are inserted into the transverse grooves 2 of a sublying log, the portions of the sublying log adjacent to the transverse recesses 2 are received in the concaved recesses 4, as will be clearly understood by reference to Figures 1, 2, 5, and 6.

By providing each log with recesses 2, tongues 3, and the concaved oppositely disposed recesses 4, the logs may be arranged in superimposed relation, one over the other, as clearly illustrated in Figure 4, in such a manner that the joints between the logs are substantially sealed.

To provide a reasonably close fit between the

surfaces of adjoining logs, each log is preferably dressed or sized, as shown at 5 and 6 in Figures 6 and 7, respectively, thereby to provide flattened surfaces which abuttingly engage one another, when the logs are arranged as shown in Figure 4.

In Figure 3, there is shown a structure having a side wall 7 and end walls 8 and 9. If a partition is to be constructed in the building, the inner sides of the outer wall logs are provided with vertical grooves 11, as clearly illustrated in Figures 3 and 8, adapted to receive terminal tongues 12 provided at the ends of the log members 13. These tongues are fitted into the recesses 11 and are provided at each side with a concaved recess 14, the bottoms of which are adapted to engage the periphery of the complemental log member, as will be clearly understood by reference to Figures 3 and 8. The partition log members 13, like the outer wall members, are supported in operative positions, as a result of being interlockingly engaged with the outer wall members, as above described. Thus, all of the vertical walls of a log cabin constructed in accordance with the present invention, may be erected without the use of nails, screws, or other separate securing means.

In some structures, it may be desirable to positively seal the horizontal joints between adjoining logs in the outer walls. This may be accomplished by the novel sealing means illustrated in Figure 10, which consists of longitudinally recessing the upper and lower peripheral surface of the logs, as indicated at 15 in Figure 10, and providing longitudinal grooves 16 at the sides thereof. In the grooves 16 are inserted suitable sealing members or strips 17 which, it will be noted by reference to Figure 10, are received in correspondingly shaped grooves 16 provided in the adjacent surfaces of an adjoining log. The bottoms of the concaved recesses 15 cooperate with the spaced strips 17 to provide a longitudinally extending gap between adjoining logs adapted to receive a suitable packing material 18, such, for example, as "okum". By thus sealing the joints between adjoining logs, it will readily be understood that circulation of air through said joints is positively eliminated, whereby a warm, comfortable log cabin structure is provided which may be readily and economically heated in freezing temperatures, if desired.

As hereinbefore stated, the logs are so interlocked and fitted together at the corners of the structure that the entire wall structure may be erected substantially without the use of nails or other securing means. All of the logs are substantially alike in form, whereby the logs for a given wall length are interchangeable and may therefore be readily and quickly assembled in a wall with a minimum of cutting or fitting, which is now common in most log cabin structures. It is also to be noted that by making the logs substantially alike in configuration for a given wall, the logs may be used interchangeably, whereby little care need be exercised in arranging them in the wall, with the result that the operation of erecting a structure is greatly simplified.

I claim as my invention:

In a log cabin structure, a plurality of logs of circular cross-section arranged one upon another to form the walls of the structure, all of said logs being identically notched and recessed at the corners of the structure, whereby said logs may be interlockingly engaged with one another, thereby to retain them in operative positions, each log at the corner of the structure having a transverse slot in the upper face thereof whose bottom terminates at the center of the log, and a longitudinal tongue in the bottom surface thereof whose upper edge constitutes the bottom of said slot, said tongue being adapted to be received in the transverse slot of a sublying log, said grooves and tongues being symmetrically disposed with respect to the longitudinal center lines of their respective logs.

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