July 7, 1931. H. B. LAWTON 1,813,455

LOG STRUCTURE

Filed Aug. 31, 1929

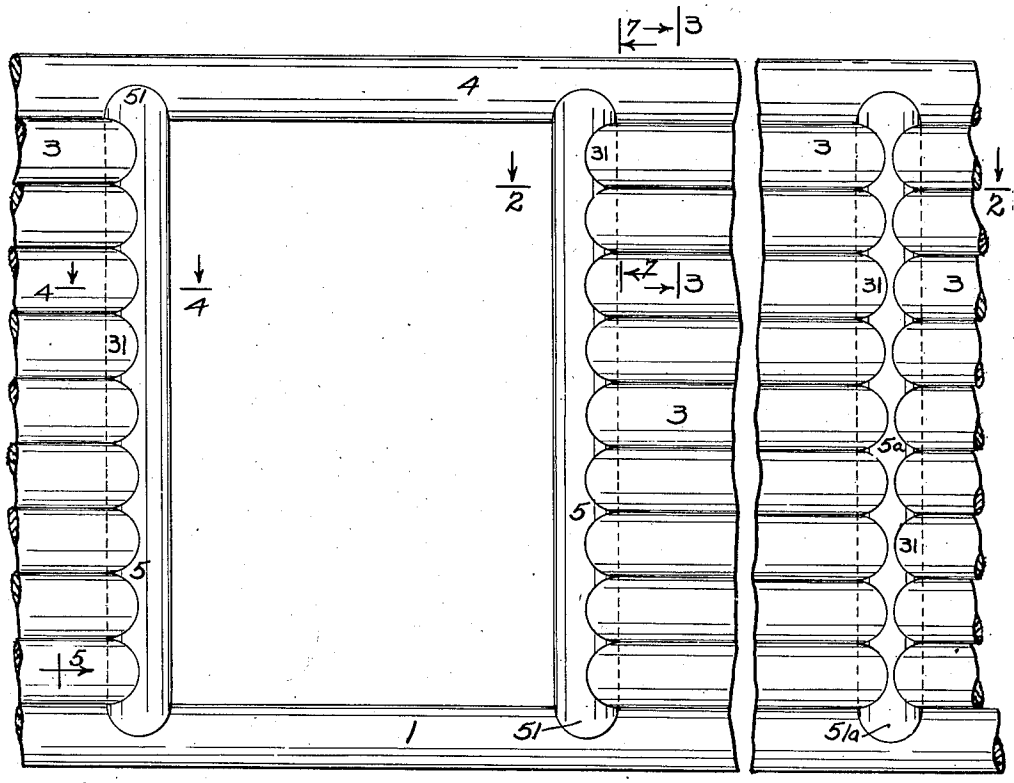


Fig. 1.

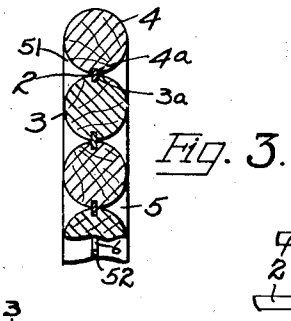


Fig. 3.

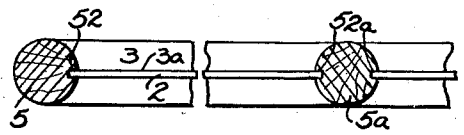


Fig. 2.

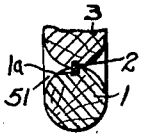


Fig. 5.

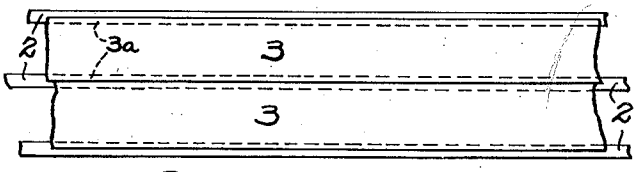


Fig. 6.

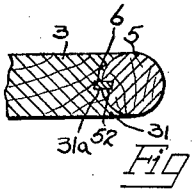


Fig. 4

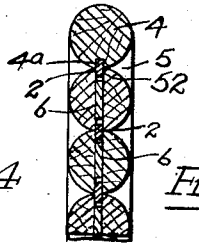


Fig. 7

INVENTOR.

Howard B Lawton

BY

Grace J. Davis

ATTORNEY.

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HOWARD B. LAWTON, OF DETROIT, MICHIGAN

LOG STRUCTURE

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This invention relates to improvements in log structures such as houses, cabins and the like, and aims to provide an improved form of structure which is stronger, more durable and more weatherproof; and at the same time more pleasing to the eye.

At the present time it is customary to erect such buildings with a plurality of logs laid horizontally one on the other and with their ends adjacent to vertical logs; all logs being held in their relative positions by spikes. Owing, however, to the fact that all the logs are rough they do not make tight joints with one another, and gaps occur between them which have to be filled with some plastic material. Again the ends of the logs are all cut substantially square across so that their ends form more or less straight lines.

It is an object of this invention to provide a log structure wherein horizontal logs are positively held relative to other logs above and below them without the aid of spikes, so that plastic material, if used at all, need not be relied upon to render the structure weatherproof; and wherein the ends of the logs are positively held in position relative to logs substantially at right angles to them.

Another object of the invention is to provide a log structure with the log ends cut in a substantially semi-circular form to fit partially around the other logs at right angles to them, thereby materially increasing the strength of the structure and also giving it a pleasing scolloped appearance.

With these and other objects and advantages in view which will become apparent as the specification proceeds, the invention is hereinafter more fully described with the aid of the accompanying drawings, in which:

Figure 1 illustrates a front elevation of a portion of my improved structure.

Figures 2, 3, 4 and 5 are sections on the lines 2—2, 3—3, 4—4 and 5—5 of Figure 1.

Figure 6 is a detail showing the method of securing horizontal logs to one another, and

Figure 7 is a section on the line 7—7 of Figure 1.

Referring to the drawings, the lower sills 1 are formed of long logs each having an upwardly directed longitudinal groove 1*a* therein. Key pieces 2 lie in and project partially outwards from the grooves 1*a*. The intermediate horizontal wall logs 3 are each provided with two longitudinal grooves 3*a* on opposite sides, and substantially semi-circular shaped ends 31. The lower grooves 3*a* in each log receive the projecting portion of the key piece 2 extending upwardly from the log 3 beneath it, or from the lower sill 1; and the key piece 2 extends upwardly from the top log 3 takes into a groove 4*a* similarly formed longitudinally of a long log 4 which forms the upper sill.

Extending between the lower and upper sills 1 and 4 are posts 5 and 5*a*, the former being door posts and the latter intermediate posts between the ends of horizontal wall logs 3. The posts 5 and 5*a* are provided with substantially semi-circular shaped ends 51 and 51*a* which fit partially around the lower and upper sills 1 and 4; and the substantially semi-circular ends 31 of the horizontal logs 3 partly encircle the posts 5 and 5*a*.

The door posts 5 are, along one side, each provided with a longitudinal slot 52, and the intermediate posts 5*a* are each provided with two such slots 52*a* on opposite sides. The ends of the key pieces 2 preferably extend into these slots 52 and 52*a*, and between the ends of adjacent key pieces 2 short key members 6 are so inserted into these slots as to extend also into vertical grooves 31*a* formed across the ends 31 of the horizontal logs 3. By allowing the ends of the key pieces 2 to extend into the slots 52 and 52*a* complete weatherproofing is assured between end portions of adjacent logs which are not absolutely in contact with one another; whereas if the key pieces 2 were shorter and the key members 6 made continuous then cracks would occur between the said pieces and members through which wind and moisture would enter particularly if the end portions of the logs did not make an absolutely tight contact.

In construction it is found that substantially semi-circular ends 51 and 51*a* of the vertical posts materially assist in holding the said posts in place on the lower sills as they form guides for the shaped ends 31 of the horizon-

tal logs 3 as the latter are lowered into position; and the provision of the key pieces 2 and key members 6 and their cooperating grooves and slots insures a weatherproof structure irrespective of whether the adjacent margins of the logs are actually in contact with one another or not. Moreover it is obvious that the combinative construction of the various parts materially strengthens the structure and renders it much more durable.

While in the foregoing the preferred embodiment of the invention has been described and shown, it is understood that the construction is subject to such further changes as fall within the appended claim.

I claim:

In a log structure, a wall arrangement comprising substantially circular logs arranged vertically at intervals to form uprights, other substantially circular logs placed horizontally one upon the other and extending between adjacent pairs of vertical logs, the ends of the horizontal logs being concave transversely across their extremities so that the distance between the two concave ends of each horizontal log at its sides is greater than the distance between the pair of vertical logs between which it extends, the concavities conforming substantially to the curvature of the vertical logs and partly encircling the latter so that the horizontal logs are held by their concave extremities against lateral movement relative to said vertical logs, the latter being slotted longitudinally, key pieces lying in the slots and projecting therefrom, the concave ends of the horizontal logs being slotted substantially centrally of their concavities to receive the projecting portions of said key pieces, the horizontal logs being also slotted longitudinally on opposite sides, and other key pieces engaging the adjacent slots formed in adjacent pairs of horizontal logs.

HOWARD B. LAWTON.