

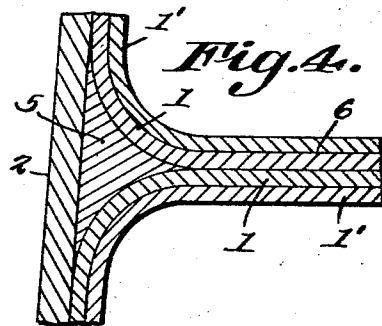
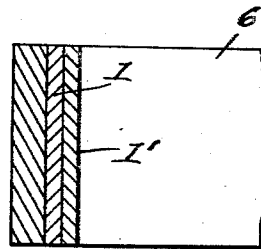
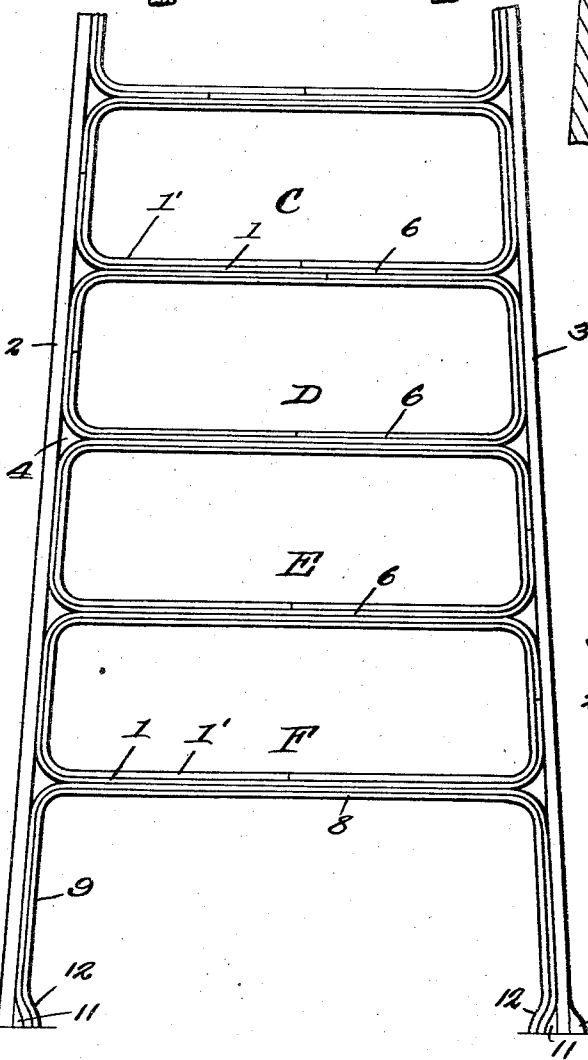
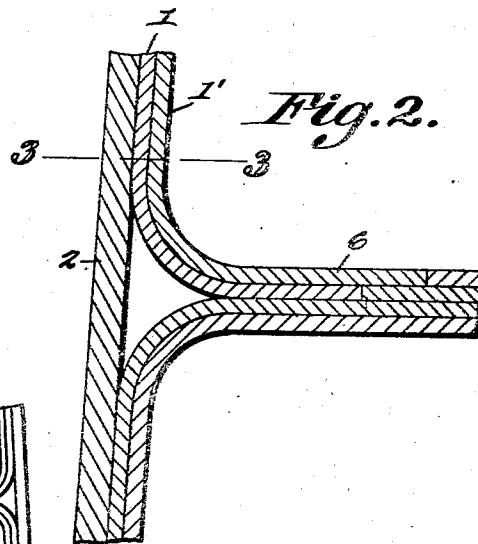
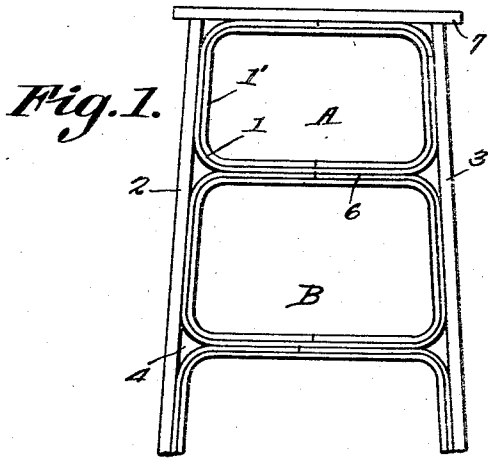
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2,385,171

LADDER

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# UNITED STATES PATENT OFFICE

2,385,171

LADDER

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1 Claim. (Cl. 228—58)

This invention relates to ladders, one of the objects being to provide a ladder formed entirely of wood and a suitable binder so that metal need not be employed in its construction.

A further object is to provide a ladder which is light and strong and can be produced readily.

Another object is to construct a ladder by a new and improved method.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in certain novel details of construction and combinations of parts and in certain new and novel steps in the method hereinafter described and pointed out in the claim, it being understood that changes may be made without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred forms of the invention have been shown.

In said drawing

Figure 1 is an elevation of a ladder constructed in accordance with the present invention, a portion being broken away.

Figure 2 is an enlarged section taken vertically through one side portion of the ladder at one of the rungs.

Figure 3 is a section on line 3—3, Fig. 2.

Figure 4 is a view similar to Fig. 2, showing a slightly modified construction.

In carrying out the invention a series of loops is provided, each loop being formed of strips of veneer held together by a suitable binder so that each loop is continuous and unbroken. The upper and lower portions of each loop are parallel while the side portions can converge in one direction or can be parallel, according to the shape of the ladder to be constructed. Furthermore the loops can be of different widths.

In the drawing, different loops have been indicated at A, B, C, D, E and F. In the structure shown in Fig. 1 each of the loops is formed with rounded corners and includes separate strips of veneer 1 and 1'. A suitable binder can be placed between these strips and said strips assembled under pressure so as to form the closed loop of the proper proportions. If the ladder is of the ordinary type with side strips 2 converging upwardly, the different loops will be so proportioned that when they are placed one above the other, the sides thereof will fit snugly against the side strips 2 and 3 to which they can be held by a suitable binder. Each loop also has its lower portion affixed to the upper portion of the next adjoining loop and these affixed portions thus cooperate to provide strong rungs which, in the

structure illustrated, are formed of four laminations held together by a suitable binder.

Where the rounded corners of the loops are located, open spaces can be left as indicated at 4 but if desired, these spaces can be closed by a filler block 5 of proper shape as shown in Fig. 4 and which is affixed not only to the side strips but also to the adjacent loops. The rungs have been indicated generally at 6.

It is to be understood of course that the various parts are to be held together under heavy pressure so that the binder used in connection therewith, when dry, will hold the parts securely together, thus completing a ladder without the use of any metal portions.

If desired, and as shown in Fig. 1, the upper ends of the side strips 2 can be connected by a cross-strip 7. The lower portion of the lower loop F can be affixed to the upper portion of an inverted yoke-like member 8 the side portions 9 of which are affixed to the side strips 2 and 3 while said upper portion is joined to the loop F in the manner heretofore explained. The side strips 2 and 3 can be formed with widened portions or feet by the use of blocks 10 and 11 affixed to the opposed sides of the strips so as to thicken these side strips. The sides of the yoke 8 will of course be affixed to these feet and form portions thereof as shown at 12.

While a ladder of one form has been illustrated, it is to be understood that orchard ladders and ladders of other shapes can be made by the same method.

In constructing the various loops it is important that the ends of the different laminations be out of register so that the loops will not be weakened.

What is claimed is:

A ladder including side strips, and superposed endless substantially rectangular loops each formed of laminated wood, said loops being interposed between and secured to the side strips, said loops having straight top and bottom portions secured to each other throughout their length and constituting rungs, the terminals of the respective laminations of each loop being out of register with each other and with the terminals of the laminations of the next adjoining loop, and a laminated bottom member having a rung portion and sides extended to the bottom ends of the side strips, the lower ends of the supporting side members of the lower rung being offset to provide feet.

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