July 24, 1923. 1,462,707

J. M. LAWLOR

SAWHORSE

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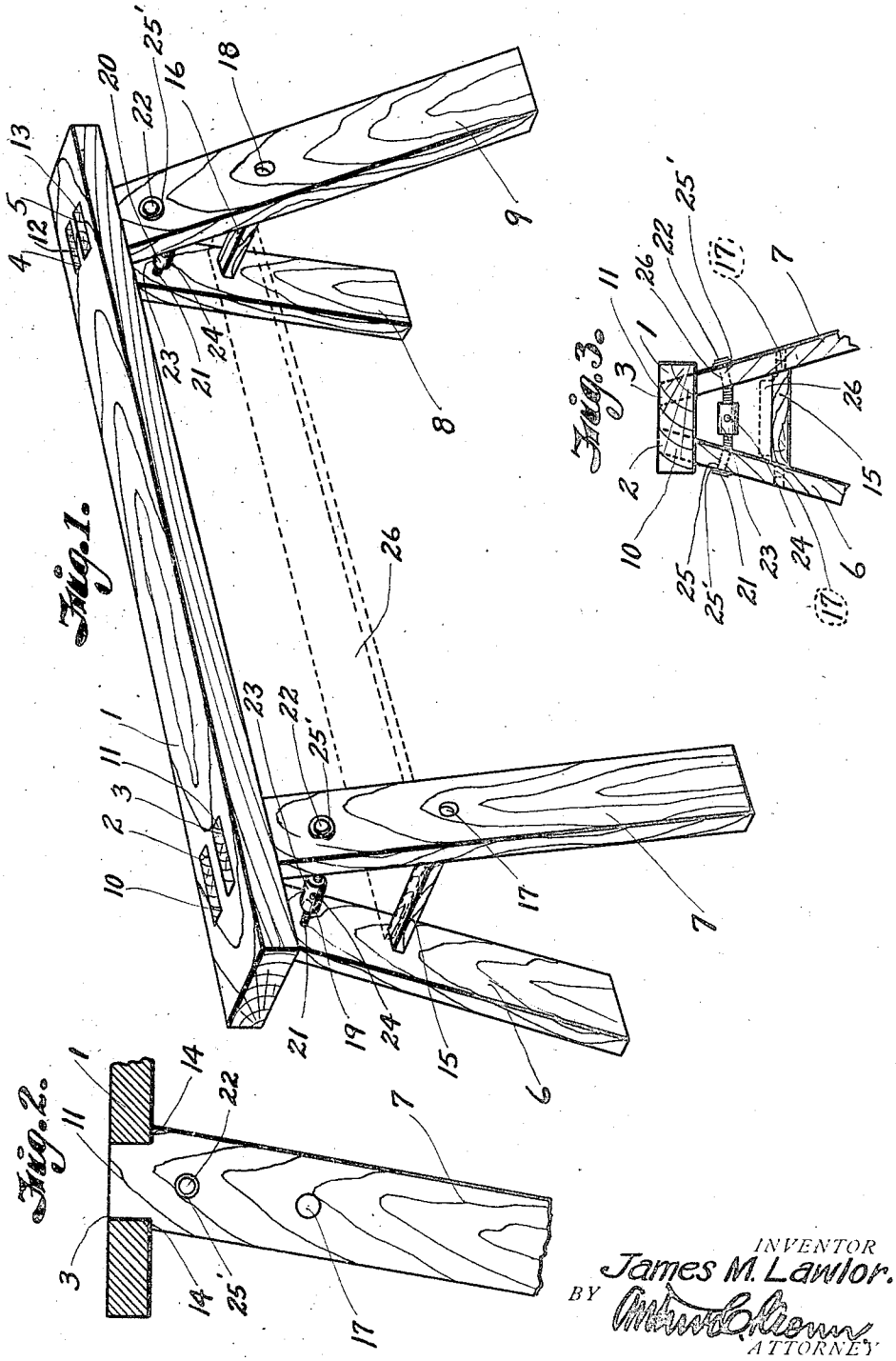

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UNITED STATES PATENT OFFICE.

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SAWHORSE.

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To all whom it may concern:

Be it known that I, JAMES M. LAWLOR, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented certain new and useful Improvements in Sawhorses; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to saw horses and the primary object is to provide a simple, inexpensive saw horse consisting of parts which may be conveniently assembled and disassembled, the latter being important when it is desired to "knock-down" the structure for transportation, storing, etc.

The saw horse can be constructed of standard lumber and the legs can be tenoned into mortises or slots in the top or ridge piece and securely fastened therein by a turnbuckle consisting of two headed bolts bearing on opposite sides of complementary legs and connected by a threaded sleeve so that the legs can be drawn together to force them at angles into slots in the top or ridge piece of the saw horse.

The novel construction of the invention will be apparent by reference to the following description in connection with the accompanying drawings, in which

Fig. 1 is a perspective view of a saw horse constructed in accordance with my invention.

Fig. 2 is a fragmentary, longitudinal view through a part of the top or ridge piece, part of one of the legs being shown in elevation, and

Fig. 3 is an end view of the saw horse.

The top or ridge piece 1 may consist of standard lumber commercially known as a 2 x 4, that is, it may consist of a beam two inches thick and four inches wide. Near the respective ends of the beam 1 are pairs of slots 2 and 3 at one end and 4 and 5 at the other. The side walls of the slots are transversely inclined; that is, the widest distance between the slots is at the bottom of the beam 1 and the narrowest distance is at the top.

The saw horse is provided with four legs 6, 7, 8 and 9, provided with tongues or tenons 10, 11, 12 and 13 respectively. The tenons have less cross sectional area than their legs and they are so cut that shoulders 14 are formed for each leg which will abut against the under face of the member 1. The legs may consist of standard lumber commercially known as 1 x 4s, that is, they may be one inch thick and four inches wide. The legs are arranged in pairs, 6 and 7 constituting one pair and 8 and 9 another pair, and between the respective pairs of legs are 1 x 2 spacing struts 15 and 16, which have at their respective ends tenons 17 and 18 adapted to pass through openings in the legs, as will be clearly seen by reference to the drawings.

Turnbuckles 19 and 20 are provided near the upper ends of the legs adjacent to the top member 1. Each turnbuckle consists of two headed bolts 21 and 22, connected by a sleeve 23. The bolts are oppositely threaded to receive opposite threads in the ends of the sleeve 23, the sleeve 23 being provided with a hole 24 for the insertion of a pin, nail or nail set whereby the turnbuckle can be rotated.

The bolts have angular offset portions 25 and 26 which are received in openings in the legs. The inclined offset portions 25 and 26 position the heads of the bolts at angles to a true horizontal line so that the heads of the bolts will be parallel with the inclined sides of the legs. Therefore, when the washers 25′ are placed on the bolts, they will lie flat against the inclined sides of the legs while the threaded portions of the bolts will lie in true horizontal planes and in axial alignment so that when the sleeve is turned, the threaded ends of the bolts can be drawn together, tending to draw the upper ends of the legs together and thereby force the tenons into the inclined slots in the ends of the top piece or ridge member 1 so that they will be held in clamping position. The tighter the sleeve 23 is screwed, the tighter will be the engagement between the tenons 10, 11, 12 and 13 and their complementary slots, and the closer the shoulder will abut against the top to make the structure rigid.

The spreading struts 15 and 16 will constitute fulcrums for the legs so that when the sleeve is turned to draw the bolts together, there will be a slight teetering action of the legs against the ends of the struts 15 and 16. The struts also serve for spacing the lower ends of complementary legs apart.

The struts have an additional advantage in that they constitute shelf-supporting brackets because if desired, a shelf 26 may rest upon the struts 15 and 16 to support articles to be used at the time the saw horse is employed.

Inasmuch as it is the prime purpose of my invention to construct a saw horse at a minimum cost, I recommend the use of wood, as above described, because the 2 x 4s, 1 x 4s and 1 x 2s are kept in stock in any lumber yard. It is apparent, however, that the invention might be made of metal although at a very much higher cost and while I prefer the use of wood, I do not wish to be limited exclusively to its use because metal might be used if desired.

When it is desired to knock down the saw horse, the sleeves will be turned in one direction to release the tension on the bolts, thereby loosening the tenons in the slots of the top or ridge member 1. The legs may then be withdrawn, the struts can be removed, and the legs laid parallel one upon the other and then parallel with the ridge piece 1 so that a very small bundle can be made of the knocked down parts, thereby facilitating transportation and storage.

The offset or inclined portions of the bolts is an important feature of the invention and they not only insure that the facing members, that is, the washers or heads of the bolts will lie flush against the inclined sides of the legs but they also will prevent the bolts from turning in the holes in the legs when the sleeves are turned to draw the bolts together.

From the foregoing it will be apparent that the saw horse can be inexpensively and conveniently constructed, that the parts will be rigidly held together after they have been properly set up, and that should the occasion demand, the parts may be readily disassociated for transportation and storage.

What I claim and desire to secure by Letters Patent is:

1. A saw horse comprising an elongated, horizontal top member having vertical slots therein inclined toward the longitudinal center of the top member, legs at the respective ends of the top member having tenons received in said slots, and a turnbuckle between each pair of legs, the turnbuckle comprising inwardly extending bolts projecting through complementary legs and provided with aligning threaded ends, the headed portions of the bolts passing through lateral holes in the legs at angles to the axes of the threaded portions and a threaded sleeve for each pair of bolts adapted to be turned to draw the threaded ends of the bolts together to force the tenons into the inclined slots in the ends of the top member.

2. A saw horse comprising an elongated horizontal top member having vertical slots therein inclined toward the longitudinal center of the top member, legs at the respective ends of the top member having tenons received in said slots, a turnbuckle between each pair of legs, the turnbuckle comprising inwardly extending bolts projecting through complementary legs and provided with aligning threaded ends, the headed portions of the bolts passing through lateral holes in the legs at angles to the axes of the threaded portions and a threaded sleeve for each pair of bolts adapted to be turned to draw the threaded ends of the bolts together to force the tenons into the inclined slots in the ends of the top member, and a spreading strut between each pair of legs and below the turnbuckle.

3. A saw horse comprising a horizontal top beam having pairs of vertical slots near its respective ends, the respective slots of each pair being inclined toward one another, pairs of legs having tenons engaging said slots, and adjustable connectors engaging the legs near their upper portions to draw them together so as to force the tenons into the slots.

4. A saw horse comprising a horizontal top beam having pairs of vertical slots near its respective ends, the slots of each pair being inclined one toward the other, pairs of legs having tenons engaging said slots, adjustable connectors engaging the legs near their upper portions to draw them together so as to force the tenons into the slots, and spreaders between the pairs of legs near their lower ends.

5. A saw horse comprising a beam having pairs of slots near its respective ends, pairs of leg having tenons engaging said slots, turnbuckles connecting the upper portions of the legs, each turnbuckle consisting of bolts passing through complementary legs, threaded sleeves connecting them, and co-operative means between the bolts and the legs for preventing turning of the bolts with respect to the legs, said co-operative means comprising inclined portions on the bolts and the walls of the openings through which the bolts project.

In testimony whereof I affix my signature.

JAMES M. LAWLOR.