Sept. 29, 1925. 1,555,090

D. P. WICKERSHAM

WORK SUPPORT

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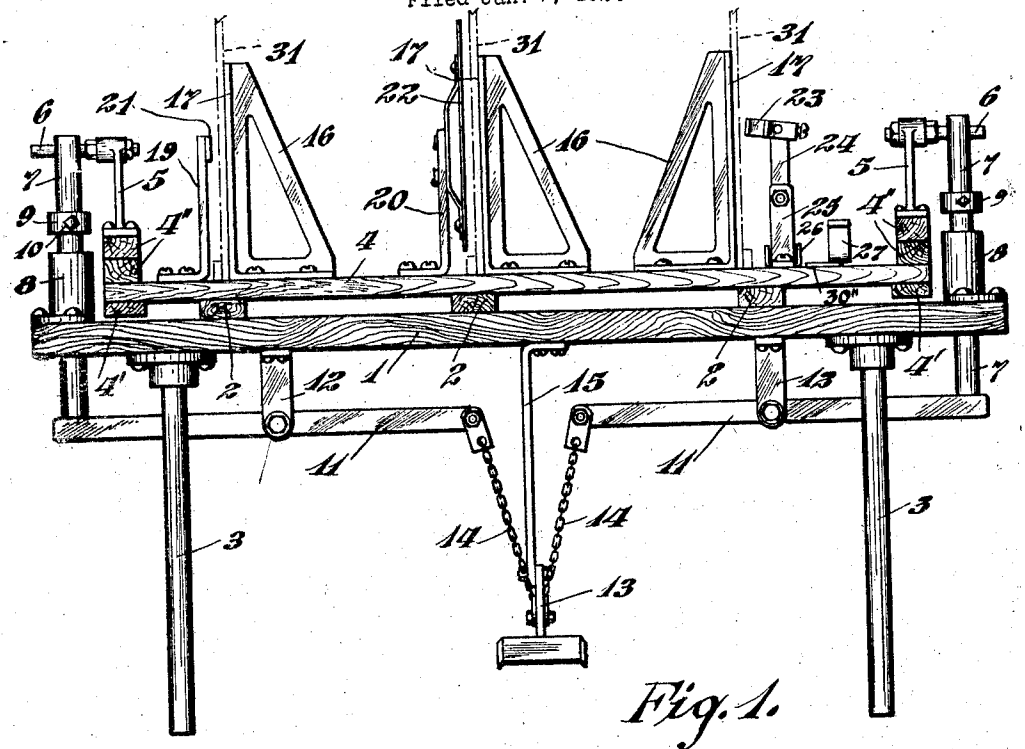


Fig. 1.

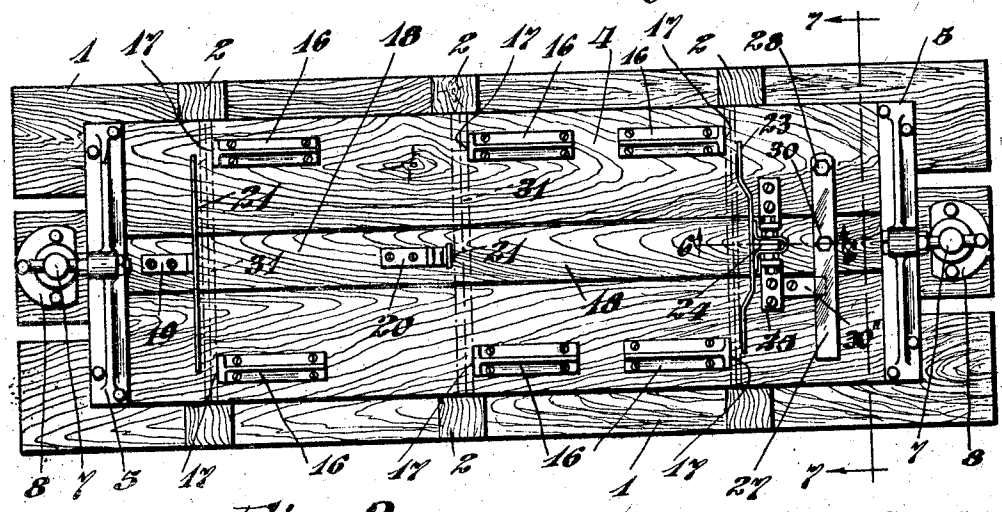


Fig. 2.

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Fig. 3.

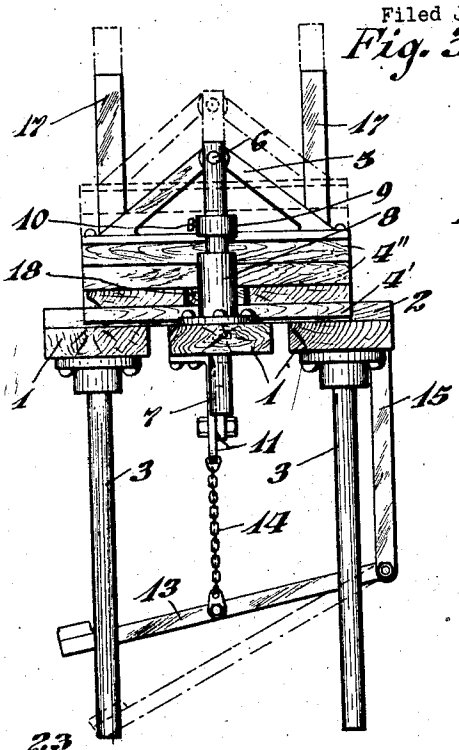


Fig. 4.

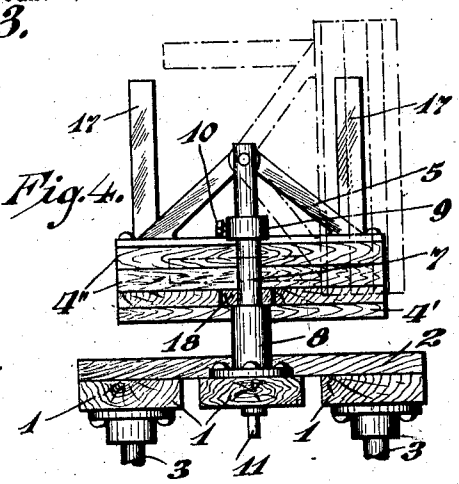


Fig. 5.

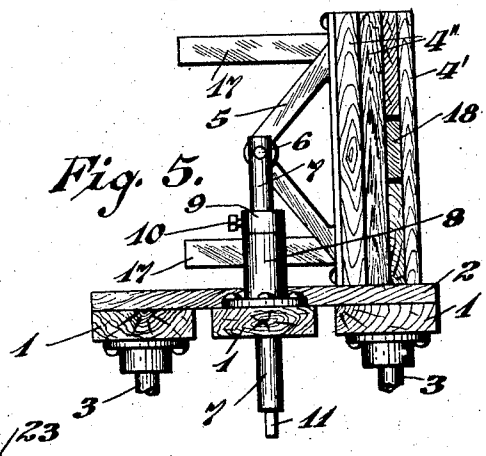


Fig. 6.

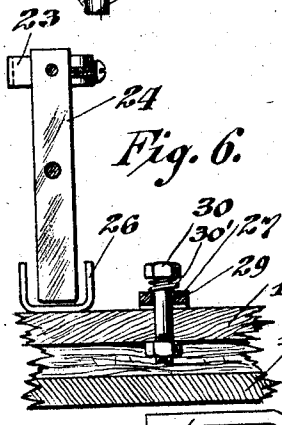
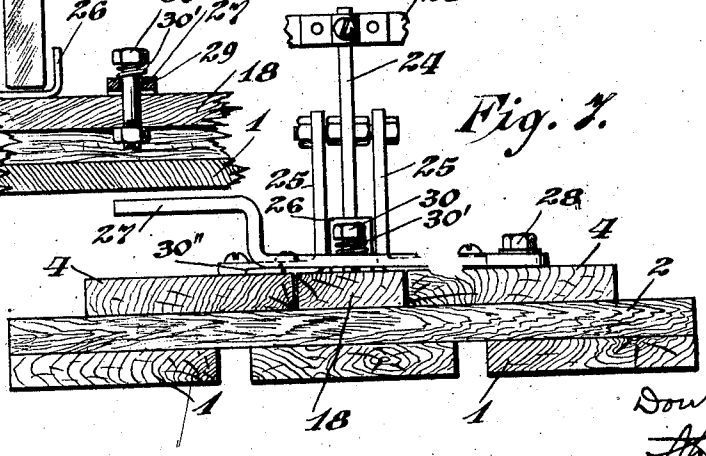


Fig. 7.



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Patented Sept. 29, 1925. 1,555,090

UNITED STATES PATENT OFFICE.

DON P. WICKERSHAM, OF URBANA, OHIO, ASSIGNOR TO THE URBANA EGG CASE COMPANY, OF URBANA, OHIO, A CORPORATION OF OHIO.

WORK SUPPORT.

Application filed January 7, 1924. Serial No. 684,738.

To all whom it may concern:

Be it known that I, DON P. WICKERSHAM, a citizen of the United States, residing at Urbana, in the county of Champaign and State of Ohio, have invented certain new and useful Improvements in Work Supports, of which the following is a specification.

This invention relates to improvements in work supports, it being particularly adapted to support certain parts of a box while the other parts are being nailed thereto.

One of the objects of the invention is to devise a support of this character particularly adapted for holding the ends and partitions, where partitions are employed, of boxes during the nailing operation so arranged as to insure uniform dimensions of the inside of the boxes regardless of the varying thickness of material employed in the boxes.

A further object of the invention is to devise a work support of this character which will insure a uniform and accurate joinder of the parts of the box.

Further objects of the invention will appear from the accompanying description and claims.

Referring to the drawings:

Fig. 1 is a side elevation of a support embodying the improvements.

Fig. 2 is a top plan view of the same.

Fig. 3 is an end view showing the tiltable cradle in its initial position.

Fig. 4 is also an end view showing the cradle raised for the purpose of tilting the same.

Fig. 5 is an end view showing the cradle tilted to one side.

Fig. 6 is a section on the line 6—6 of Fig. 2.

Fig. 7 is a section on the line 7—7 of Fig. 2.

The machine to which my invention relates is particularly designed for the purpose of nailing together the sides and ends of boxes or crates such for instance as crates for egg case fillers. The ends of the box or crate, together with a central partition, when such a partition is desired, are first assembled in fixed predetermined relation upon a tiltable cradle, which is first tilted to a position to enable one side of the box or crate to be nailed to the ends and partition and then reversed to permit of the application of the other side of the box. There are employed on the tiltable cradle a series of fixed abutments and also a series of clamps for clamping the box ends and central partition to the fixed abutments during the nailing process.

Referring to the drawings, 1 represents a a series of planks, three in number in the present case, which constitute a supporting table, these planks being connected together on their upper sides by a series of three cross-strips 2 which are nailed or otherwise secured to the planks. The table is supported on a series of legs 3 at a suitable height from the floor.

The tiltable cradle is constructed of a pair of spaced-apart planks 4 connected together at each end on their under sides by cross-strips 4′. The planks 4 also have secured thereto at each end a wall 4″ to each of which is attached inverted V-shaped brackets 5, to the upper end of each of which is secured a laterally projecting pin 6. Each of these pins projects loosely through an aperture in the upper end of a plunger 7 which is slidably mounted in a sleeve 8 secured to the central plank 1; the plunger having a collar 9 adjustably secured thereto by a set-screw 10. A pair of levers 11 are pivotally connected to depending brackets 12 beneath the table having their inner ends connected to a foot lever 13 by chains 14, the foot lever being pivotally connected to a depending bracket 15. The outer ends of the levers project beneath the plungers 7 so that when the foot lever is depressed the plungers together with the cradle will be raised.

Secured to the planks 4 of the cradle are a series of abutments each in the form of a metallic casting or stamping 16 which has a flat surface 17, arranged perpendicular to the top surface of the planks. The abutments are so disposed that their surfaces 17 will face in opposite directions and toward the ends of the cradle for the purpose to be explained. Slidably mounted between the planks 4 of the cradle is a slide 18 preferably formed of a wooden plank of substantially the same height as the planks 4. To this slide are connected a series of clamps. Two of the clamps consist of rigid standards 19 and 20 having their lower ends secured to the slide 18 so as to be movable in the same direction therewith. One of these standards carries at its upper end a spring clamping strip 21 which cooperates with the perpen-

dicular surface 17 of the abutment at one end of the machine, while the other standard 20 carries a spring clamping member 22 which cooperates with the perpendicular surface of the central abutment. A third spring clamping member 23 cooperates with the perpendicular surface 17 of the abutment at the opposite end of the cradle and is mounted upon the upper end of a lever 24 which is pivotally carried by a pair of brackets 25 secured to the cradle planks 4 and has its lower end loosely projected into a U-shaped member 26 secured to the slide 18 so that when the slide is moved the lever will be rocked to thereby move the clamping member 23 in a direction opposite the direction of movement of the slide. A lever 27 having one end pivoted to a pin 28 on one plank 4 of the cradle has an aperture 29 (Fig. 6) to receive a pin or bolt 30 carried by the slide 18 whereby the slide may be manipulated. A spring 30′ holds the lever in frictional engagement with a plate 30″ to retain it in position.

In operation, the ends and central partition 31 of a box are placed in position against the surfaces 17 of the abutments and the slide moves so as to cause the clamps to firmly clamp these ends and sides against said abutments. By reason of the fact that the end clamps move in opposite directions I am enabled to place the ends of the box on the outside of the abutments instead of one on the outside and the other on the inside as would be necessary should the clamps be so connected to the slide as to all move in the same direction with the slide. By having the faces of the end abutments located a fixed distance apart, depending upon the dimensions of the box desired, I am enabled to insure all of the boxes having uniform inside dimensions regardless of any variation in the thickness of the material employed in the boxes.

After the ends and partitions have been firmly clamped to the abutments in the manner described the foot lever is depressed and the cradle raised to the position shown in Fig. 4 whereupon it can be tilted to the position shown in Fig. 5 so as to enable one side of the box to be nailed to the sides and ends. The foot pedal is again depressed to raise the cradle whereupon it can be tilted to the reverse position and the other side of the box nailed to the sides and ends. The cradle is then placed in the position shown in Fig. 3 to enable the bottom of the box to be nailed to position.

When the cradle is tilted to the position shown in Fig. 5 or to the reverse tilted position the collars 9 coacting with the upper ends of the sleeves 8 form stops and by properly adjusting the collars, the upper surfaces of the planks 4 of the cradle will be brought into true perpendicular relation with the cross strips 2 so that the cross-strips and planks will act as gauges for the ends and partition to insure that the same are in true perpendicular position while the sides are being nailed thereto.

Having thus described my invention, I claim:

1. In a device of the character described, a main support, a cradle hung thereon and operable so as to be laid on either one of its sides, fixed abutments carried by said cradle, a movable member, and clamps located, respectively, on the outer sides of said abutments and operable by said member and cooperating with said abutments to clamp the ends of a box to said abutments, one of said clamps being movable to clamping position in one direction and the other clamp movable simultaneously to clamping position in the opposite direction whereby the box ends may be clamped to the outer surfaces of said abutments.

2. In a device of the character described, a main support, a vertically-movable plunger at each end of said support, a cradle pivotally hung from the upper ends of said plungers whereby when the cradle is raised by said plungers it may be laid upon either one of its sides, abutments secured to said cradle arranged perpendicular to the floor thereof and in fixed relation with each other having clamping surfaces which face in opposite directions and toward the ends of said cradle, clamps arranged, respectively, on the clamping surface sides of said abutments cooperating with said surfaces, and mechanical means for simultaneously operating said clamps whereby box ends may be held in position against said surfaces.

3. In a device of the character described, a main support, a cradle hung on said support and operable so as to be laid on either one side or the other, perpendicular abutments carried by said cradle having clamping surfaces, each clamping surface facing toward the adjacent end of said cradle, a clamp cooperating with each clamping surface, and mechanical means for simultaneously moving said clamps to clamping position in opposite directions so as to clamp box ends to the clamping surfaces of said abutments.

4. In a device of the character described, a main support, a cradle hung thereon and operable so as to be laid on either of its sides, said cradle having a floor, a pair of abutments secured to said floor having clamping surfaces which project perpendicularly from said floor and each face toward the adjacent end of said cradle so that said clamping surfaces will be on the outside of said abutments, an operating member, a clamp cooperating with one of said abutment surfaces and secured to said operating member, and another pivotally

supported clamp cooperating with the other abutment surface and operable by said operating member to simultaneously move in the opposite direction to the movement of the other clamp and to clamp the box ends to the other sides of said abutments.

5. In a device of the character described, a main support, a cradle hung thereon and operable so as to be laid on either of its sides upon said support, said cradle having a floor with a central space therein, abutments arranged in opposite sides of the longitudinal center of said cradle floor and having perpendicular clamping surfaces which face towards the ends of said floor, a slide mounted in the space in said floor together with means for operating the same, a clamping member carried by said slide and cooperating with the abutment surfaces at one end of said cradle, a second clamping member pivotally supported from said cradle floor and operable by said sliding member to cooperate with the other abutment surface.

In testimony whereof, I have hereunto set my hand this 27th day of December 1923.

DON P. WICKERSHAM.