Aug. 27, 1940. C. A. KINNINGER 2,213,008

TRESTLE

Filed Feb. 16, 1939

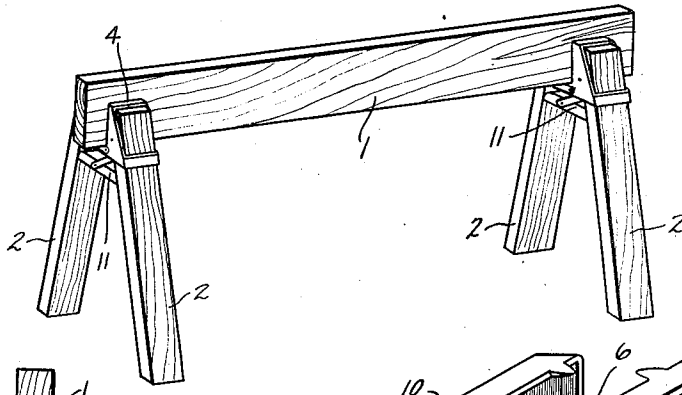


Fig.-1

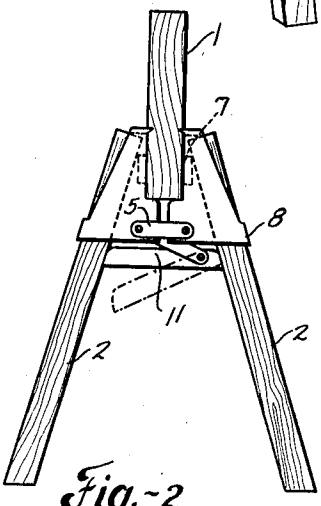


Fig.-2

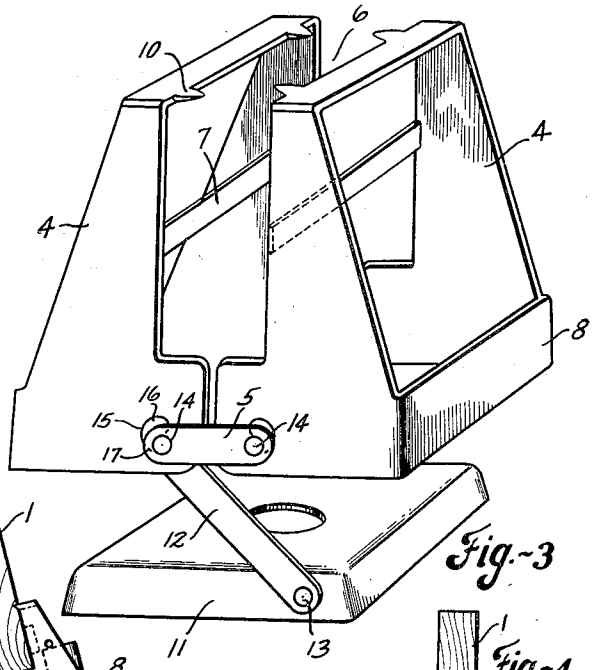


Fig.-3

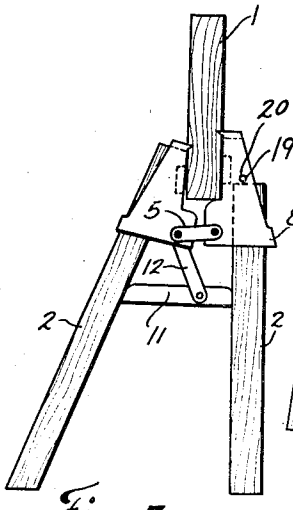


Fig.-5

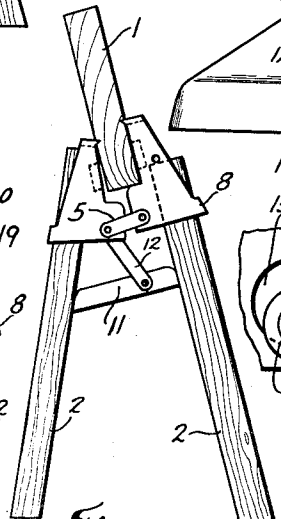


Fig.-6

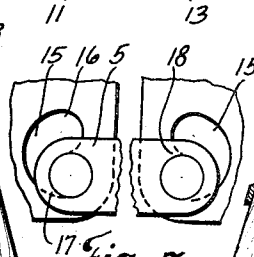


Fig.-7

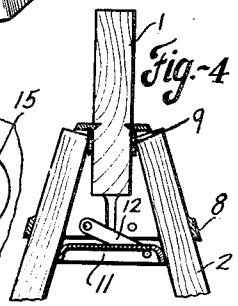


Fig.-4

Inventor

Carl A. Kinninger

By J. E. Walker

Attorney

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TRESTLE

Carl A. Kinninger, Dayton, Ohio

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14 Claims. (Cl. 304—5)

This invention pertains to a trestle, and more particularly to a trestle such as is used by carpenters, masons, plasterers, etc., and of the knock-down type, wherein only a minor number of relatively small parts of a complete trestle need be transferred from one job to another to provide for trestles at each job.

It is common practice to construct trestles wholly of wood either on the site of each particular job, or to construct the trestles and convey them from one job to another. To construct the trestles on each individual job is both time consuming and expensive, while to convey preconstructed trestles from one job to another is highly inconvenient. Various attempts have been made to provide trestles of the knock-down type, but in each instance there have been objections arising from the amount of material to be conveyed from one place to another, or drawbacks as to the operability and flexibility of use of the devices.

The object of this invention is to simplify the construction as well as the means and mode of operation of trestles of the knock-down type, whereby trestles may not only be economically constructed, but will be more efficient and accurate in use, and unlikely to get out of repair.

Another object of the invention is to provide a trestle of the knock-down type wherein a minimum number of parts are necessarily common to each construction, or must be conveyed from one point to another to provide for trestles at each individual job.

A further object of the invention is to provide an apparatus for setting up a trestle at each individual job, thereby overcoming the necessity of transporting a trestle from one job to another.

A further object of the invention is to provide means whereby a strong, durable, knock-down trestle may be expeditiously set up when and where desired.

Another object of the invention is to provide a trestle wherein the parts common to each construction are flexible with respect to the width of ledge boards which may be employed as a part of the trestle.

A further object of the invention is to provide a knock-down trestle possessing the meritorious characteristics and advantageous features of construction herein mentioned.

With the above primary and other incidental objects in view as will more fully appear in the specification, the invention intended to be protected by Letters Patent consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described or illustrated in the accompanying drawing.

Referring to the accompanying drawing, wherein is shown the preferred but obviously not necessarily the only form of embodiment of the invention, Figure 1 is a perspective view showing a trestle including the novel features disclosed by this invention.

Figure 2 is an end elevation of the trestle showing the supporting legs, ledge board, and the means for maintaining the legs and ledge board in assembled relation.

Figure 3 is a perspective view of the securing means adapted to maintain the legs and ledge board of a trestle in assembled relation.

Figure 4 is a sectional view showing a modification of the invention.

Figure 5 is an end elevation showing a modified form of the invention and a trestle adapted for use adjacent a vertical wall.

Figure 6 is an end elevation similar to Figure 5, and showing further use capabilities of the trestle bracket.

Figure 7 is a fragmentary view showing the connection between the ledge board engaging members.

Like parts are indicated by similar characters of reference throughout the several views.

Referring to the drawing, and particularly Figure 1 thereof, there is shown a trestle of the type used by carpenters, masons, plasterers, etc., to provide for a platform elevated above the ground or floor level, and by the use of which workmen may have ready access to points beyond their ordinary reach, and for other well known purposes. In the ordinary use of such trestles, two trestles are positioned in spaced relation to act as a supporting means for one or more flat boards placed across the top thereof.

The trestle consists of a ledge board 1 supported by pairs of divergent legs 2 at or adjacent its opposite ends, the ledge board being ordinarily positioned, as shown, with one of its side edges upwardly. For securing the ledge board 1 and each pair of legs 2 together and maintaining them in assembled relation, there is provided a pair of hollow, recessed head elements of like form, and each of which includes oppositely disposed relatively movable head members 4 pivotally secured together for relative parallel and independent oscillatory movement by a link 5, and having their adjacent faces so shaped as to provide a recess 6 for receiving the ledge board

1. Each head member 4 is hollow or recessed to receive the uppermost end of one of the legs 2, and is provided with abutment surfaces formed by a bar or rib 7 disposed a substantial distance below the top of the head member and adjacent the edges which form one side of the recess 6 and an end wall 8 for engagement by the upper inner surface of each leg 2 and the outer surface of the leg respectively. For purposes of economy and lightness the head members 4 may be formed of stampings, and are preferably of skeleton form as shown. At its top inner edge, each head member 4 is equipped with projecting teeth 10 to provide for bite of the head members into opposite sides of the ledge board 1.

It will be apparent that with a ledge board 1 disposed in the recess 6 formed by the oppositely disposed head members 4 and legs 2 inserted into the hollow head members with the inner surface of each leg abutting the abutment rib or bar 7 adjacent its upper end, and the outer surfaces of the legs engaging the side walls 8 of each head member, separation of the lowermost ends of the legs 2 will produce inward movement of the upper ends of the head members by reason of their being pivotally connected at their lower ends by the link 5 to solidly grip opposite sides of the ledge board 1 and produce a bite of the teeth 10 into opposite sides of the ledge board, and that so long as the lower ends of the legs 2 are maintained in or urged toward diverging relation, the ledge board 1 will be securely gripped and supported by the legs 2.

In order to urge the lowermost ends of the legs 2 toward and maintain the legs 2 in diverging relation, a wedge plate 11 is provided beneath the head members 4 and secured to the head members 4 by a link 12 pivotally connected to one of the head members and to the wedge plate 11 as at 13 in a manner to form a toggle-like arrangement. The wedge plate 11 is of sufficient width as compared to the overall width of the bottoms of the head members 4, such that as it is moved toward horizontal position from the dotted line position shown in Figure 2, it will engage the respective leg members 2 with its opposite sides and produce a wedging action tending to separate the legs 2. Thus, by reason of the inner surfaces of the legs 2 engaging the ribs or bars 7 and the outer surfaces of the legs adjacent their top ends engaging the side walls 8 of the head members 4, and the side walls 8 being held against horizontal separation movement by the link 5, movement of the wedge plate 11 towards horizontal position between the legs 2 will produce an inward gripping movement of the upper ends of the head members 4 to securely grip the ledge board 1 between the head members and maintain the various parts of the trestle in secure assembled relation. Such movement of the wadge plate 11 toward horizontal wedging position may be accomplished by subjecting the end of the wedge plate 11 opposite that end to which the link 12 is connected to pressure or impact in a direction toward the underside of the head members 4, and reversely the wedge plate 11 may be moved out of wedging position for release of the ledge board 1 and disassembly of the trestle by subjecting the wedge plate 11 to pressure or impact on its opposite face and in the opposite direction. By reason of such construction, only the recessed head elements need be transported from one job to another, and at which other job a trestle may be easily and quickly fabricated by employment of lumber there available.

The oppositely disposed recessed head elements 4 being connected together by the link 5 in lieu of a single pivot provides for a greater range of relative movement of the head members 4 both toward and away from each other, and also provides for relative movement of the head members 4 in a vertical direction. As shown, the pins 14 at opposite ends of the link 5, and by means of which the link 5 is connected to the respective head elements 4, extend through openings 15 in the head elements 4 of an oblique obcordate shape, or such that the head elements may be spaced horizontally from each other to different degrees to thereby provide for a wider or narrower recess 6 and accommodate ledge boards 1 of different thicknesses. The openings 15 provide two areas 16 and 17 for reception of the pins 14 and separated by an inward projection 18, and the openings are so shaped as to provide for passage of the pins 14 from the areas 16 to the areas 17 as desired. It will be noted that the complemental areas 16 are spaced farther apart than the complemental areas 17 whereby with the pins 14 disposed in the area 17 the head elements 4 will be spaced farther apart than they would be if the pins 14 were disposed in the area 16 and the recess 6 between the head elements 4 will be correspondingly wider to thereby accommodate a slightly wider ledge board 1. Reversely, when the pins 13 are disposed in the areas 16, the head elements 4 will be positioned more closely to each other with a consequent narrowing of the recess 6 and adaptation of the securing means to only ledge boards 1 of lesser thickness. As one example of construction, the inner limit of each area 16 may be positioned 1/32" further inwardly of the head element 4 than the inner limit of the area 17, whereby the recess 6 is particularly adapted to accommodate ledge boards which vary 1/4" in thickness depending upon whether the pins 14 are disposed in the areas 16 or the areas 17. A further range of adjustment of the width of the recess 6 is provided for by the capability of placement of one pin 14 in the area 16 of one opening 15 and in the area 17 of the opposite opening 15 with the link 5 in diagonal position and corresponding variation in the width of the recess.

Referring to Figures 5 and 6 of the drawing, there is illustrated a modified form of the invention wherein at least one of the head elements 4 is provided with openings 19 to receive a pin 20 extending across the area in the head element 4 adapted to receive a supporting leg 2. With the pin 20 in place, the supporting leg 2 injected into that head element may only extend into the recess of the head element a distance determined by the pin 20. As shown in Figure 5, the leg 2 disposed in the head element equipped with the pin 20 is substantially shorter than the leg 2 disposed in the opposite head element whereby when the lower ends of the leg members 2 are moved into diverging relation by the wedge plate 11, the shorter leg 2 will be in a vertical position with the other leg 2 in an angular position, the head elements 4 being correspondingly in a vertical and angular position with one slightly higher than the other and the ledge board 1 held strictly vertical. In the construction shown in Figure 6, wherein the legs 2 are of the same length, the leg 2 in the head element 4 having the pin 20 therein will be only slightly

inclined and the ledge board 1 correspondingly slightly tipped out of vertical position. With such an arrangement, a trestle is provided which is particularly adapted for use in close proximity to a vertical wall and is such that the ledge board 1 will be positioned correspondingly closer to a vertical wall than would be possible with the construction shown in Figs. 1 and 2 wherein both of the legs 2 are in substantially diverging angular positions.

In Figure 4 of the drawing, I have shown a further modified form of the invention, and in which the ribs or bars 7 take the form of abutment surfaces 9 formed by downward extensions from the top of the head members 4. It will be apparent that with a ledge board 1 disposed in the recess 6 formed by the oppositely disposed head members 4 and legs 2 inserted into the hollow head members with the upper inner corners of each leg abutting the abutment plates 9, and the outer surfaces of the legs engaging the side walls 8 of each head member, separation of the lowermost ends of the legs 2 will produce inward movement of the upper ends of the head members by reason of their being pivotally connected at their lower ends by the link 5 to solidly grip opposite sides of the ledge board 1 as hereinbefore described.

From the above description it will be apparent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute, the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific features shown, but that the means and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect, and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. In a knock down trestle wherein a ledge board is supported by diagonally disposed supporting legs arranged in pairs, a pair of opposed socket members in which the ends of the legs are engageable and between which the ledge board is to be interposed, spacer links flexibly connecting the sockets with each other for limited relative adjustment, and a pivotal wedge member flexibly connected with the socket members and having bodily swinging movement into and out of wedging engagement between the legs to adjust the socket members into clamping engagement with the ledge board and release the socket members from clamping engagement therewith.

2. A knock down trestle wherein a ledge board is detachably supported by diagonally disposed supporting legs arranged in pairs, including a pair of interpivoted socket members in which the upper ends of the legs of a pair are respectively engageable, and a wedge member engageable in wedging relation between the legs of the pair by bodily swinging movement to spread the legs and thereby effect gripping action of the ledge board by the socket members and a pivotal connection for the wedge member with the socket members.

3. In a knock down trestle wherein a ledge board is supported by diagonally disposed supporting legs arranged in pairs, a coupling head for interengaging the legs and ledge board with each other, a pivotally mounted wedge member bodily swingable into wedging engagement between the legs for spreading the diagonal legs of a pair, the wedge member having pivotal connection with the coupling head.

4. In a knock down trestle wherein a ledge board is supported by diagonally disposed supporting legs arranged in pairs, a coupling head for interengaging the legs and ledge board with each other, a wedge member engageable between the legs of a pair for spreading the legs and a swinging link connecting the wedge member with the coupling head for relative bodily swinging adjustment thereof into and out of wedging position.

5. In a knock down trestle wherein a ledge board is supported by diagonally disposed supporting legs arranged in pairs, a coupling head for interengaging the legs and ledge board with each other, including a pair of socket members in which the ends of the legs are engageable, an abutment bar at the inner surface of each socket member, and a link pivotally connecting the socket members for relative adjustment about spaced centers and coacting wedging means for adjusting the socket members one relative to the other.

6. In a knock down trestle wherein a ledge board is detachably supported by diagonally disposed legs arranged in pairs, a coupling head including separate socket members in which the ends of the legs are engageable, and a flexible connection for the socket members so arranged as to permit both relative parallel and independent oscillatory motion of the socket members one relative to the other, and spreader means for the legs of the pair engaged with the socket members for effecting oscillatory motion of the socket members into gripping engagement with a ledge board interposed therebetween in any position of relative parallel adjustment of the socket members.

7. In a knock down trestle wherein a ledge board is detachably supported by diagonally disposed legs arranged in pairs, a coupling head including separate socket members in which the ends of the legs are engageable, an adjustable interconnection between the socket members permitting relative shifting adjustment of one member into relatively offset relation with the other member and enabling relative oscillatory movements thereof in either position of adjustment, and associated spreader means having engagement with the legs of a pair to effect oscillation of the socket members one toward the other into gripping engagement with an interposed ledge board.

8. A trestle having a ledge biard and pairs of supporting legs, and means for securing the ledge board and legs in assembled relation including a member having a pair of oppositely disposed pivotally connected head elements so arranged as to provide a recess therebetween for receiving a ledge board, openings in the head elements to receive the supporting legs, and means for moving and maintaining the legs in diverging relation to clamp the ledge board between the oppositely disposed head elements including a pivotally mounted wedge plate movable about its pivotal mounting into and out of horizontal wedging position between the legs.

9. A trestle having a ledge board and pairs

of supporting legs, and means for securing the ledge board and legs in assembled relation including a member having a pair of oppositely disposed pivotally connected head elements so arranged as to provide a recess therebetween for receiving a ledge board, openings in the head elements to receive the supporting legs, and means for moving and maintaining the legs in diverging relation to clamp the ledge board between the oppositely disposed head elements, including a wedge plate suspended from one of the head elements and movable into and out of substantially horizontal wedging position between the legs.

10. A trestle having a ledge board and pairs of supporting legs, and means for securing the ledge board and legs in assembled relation including a member having a pair of oppositely disposed pivotally connected head elements so arranged as to provide a recess therebetween for receiving a ledge board, openings in the head elements to receive the supporting legs, and means for moving and maintaining the legs in diverging relation to clamp the ledge board between the oppositely disposed head elements, including a wedge plate suspended eccentrically from one of the head elements and movable into and out of wedging position between the legs.

11. A trestle having a ledge board and pairs of supporting legs, and means for securing the ledge board and legs in assembled relation including a member having a pair of oppositely disposed pivotally connected head elements so arranged as to provide a recess therebetween for receiving a ledge board, the head elements being adjustable to vary the width of the recess, a leg abutment bar at the inner surface of each head element, openings in the head elements to receive the supporting legs, and means for moving and maintaining the legs in diverging relation to clamp the ledge board between the oppositely disposed head elements.

12. A trestle having a ledge board and pairs of supporting legs, and means for securing the ledge board and legs in assembled relation including a member having a pair of oppositely disposed pivotally connected head elements so arranged as to provide a recess therebetween for receiving a ledge board, the head elements being adjustable at their pivotal connection to vary the width of the recess, openings in the head elements to receive the supporting legs, and means for moving and maintaining the legs in diverging relation to clamp the ledge board between the oppositely disposed head elements.

13. A trestle having a ledge board and supporting legs therefor, and means for securing the ledge board and legs in assembled relation including oppositely disposed interconnected head elements so arranged as to provide a recess therebetween for receiving a ledge board, the head elements having openings therein to receive the supporting legs and the connection between the head elements being adjustable for selectively varying the width of the ledge board receiving recess to accommodate ledge boards of different thickness.

14. A trestle having a ledge board and supporting legs therefor, and means for securing the ledge board and legs in assembled relation including oppositely disposed interconnected head elements so arranged as to provide a recess therebetween for receiving a ledge board, the head elements having openings therein to receive the supporting legs and the connection between the head elements being adjustable for selectively varying the width of the ledge board receiving recess to accommodate ledge boards of different thickness, and means for maintaining the parts in assembled relation.

CARL A. KINNINGER.