March 13, 1934. J. H. BONNET 1,950,593

KNOCKDOWN PORTABLE BENCH

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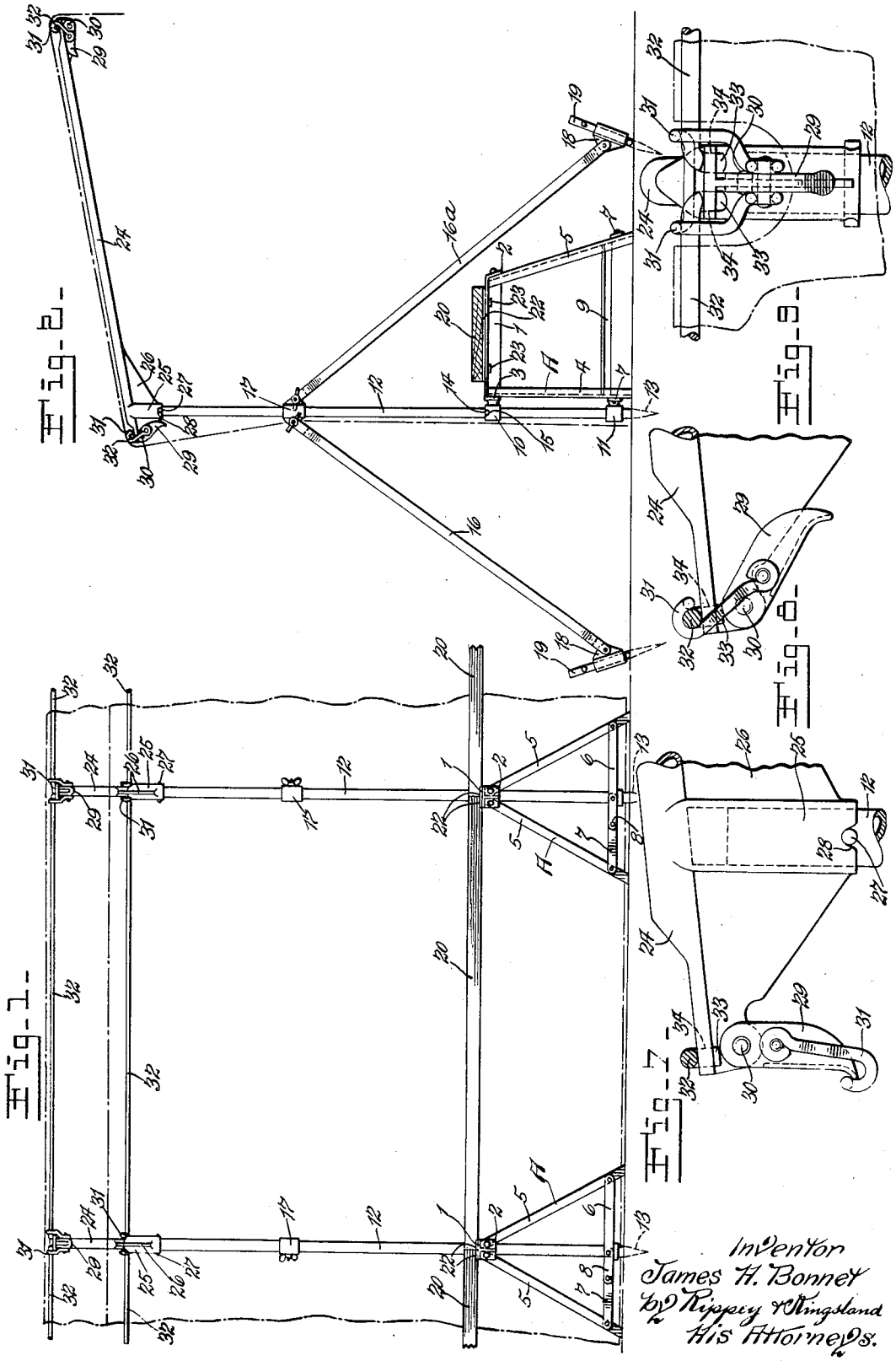

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Inventor
James H. Bonnet
by Rippey & Kingsland
His Attorneys.

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Fig. 3.

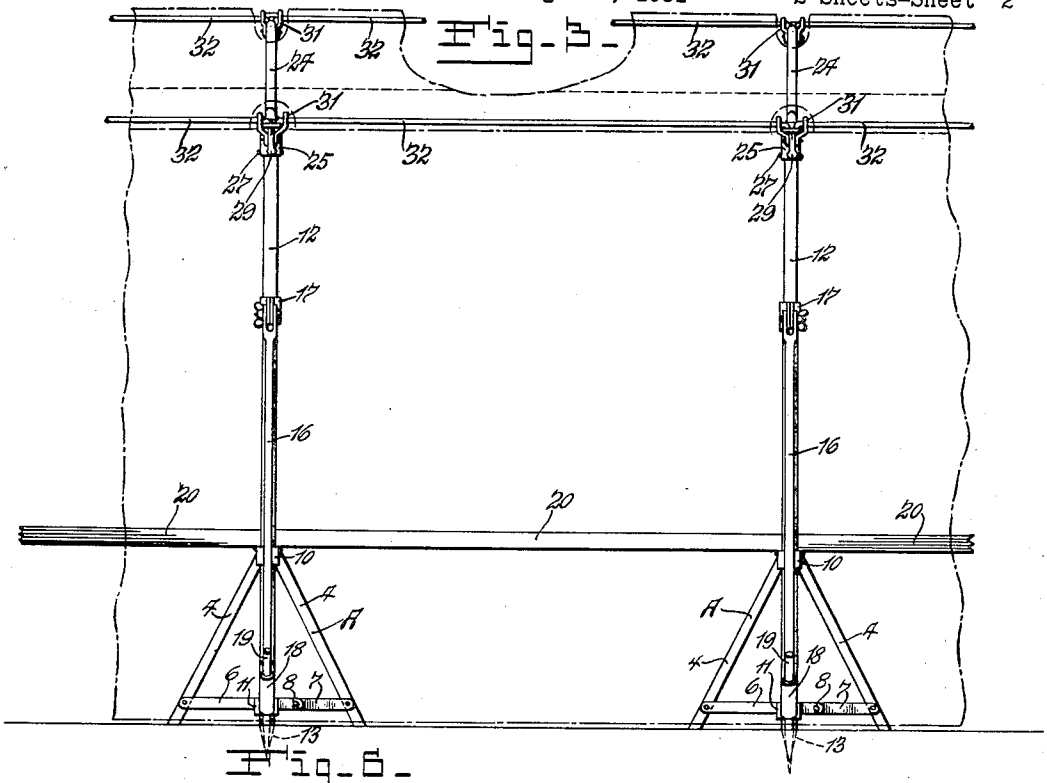


Fig. 6.

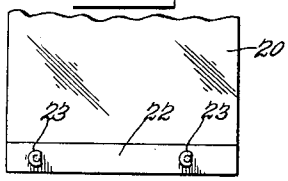


Fig. 5.

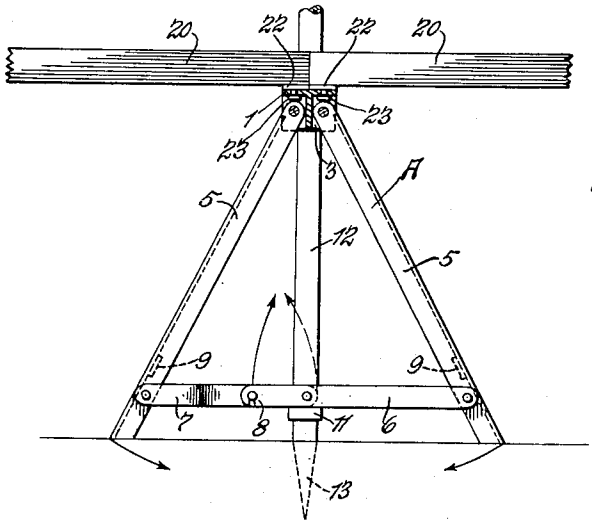
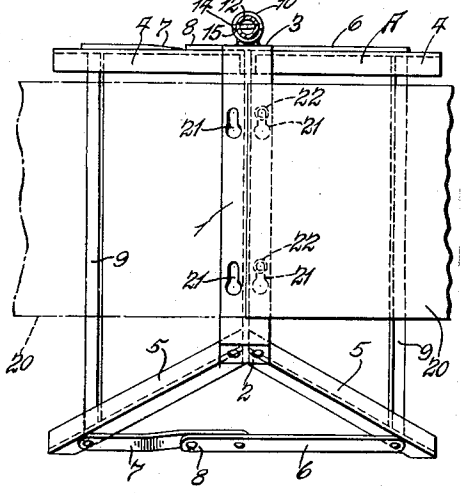


Fig. 4.



Inventor
James H. Bonnet
by Rippey & Kingsland
His Attorneys.

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UNITED STATES PATENT OFFICE

1,950,593

KNOCKDOWN PORTABLE BENCH

James H. Bonnet, Champaign, Ill.

Application August 14, 1931, Serial No. 557,142

7 Claims. (Cl. 155—130)

This invention relates to improvements in knock-down portable benches; and consists in the novel construction hereinafter disclosed.

An object of the invention is to provide a knock-down structure which may be set up to form a canopied or protected bench which is particularly adapted for use on athletic fields or the like, as it may be readily set up at selected places and, when set up, will be rigid and strong and capable of supporting the weight of a number of persons.

Additional detailed advantages of the construction will be apparent from the following description, taken in connection with the accompanying drawings, in which—

Fig. 1 is a front view of a section of the bench set up.

Fig. 2 is a cross-section through the structure.

Fig. 3 is a back view of the structure set up.

Fig. 4 is a plan view of the lock joint between the bench sections.

Fig. 5 is a cross-section through one of the supports.

Fig. 6 is a detail view of a portion of one of the bench sections, showing the detail of the interlock with the support.

Fig. 7 is a detail view illustrating the method of connecting one of the upper bracing members.

Fig. 8 is a similar view in a locked position.

Fig. 9 is a rear view of the lock device.

In the embodiment of the invention illustrated in the drawings, the bench is shown as including a plurality of spaced supports A, each of which includes a T-iron section 1 having a downturned lip or flange 2 at its forward end and a downturned flange 3 at its rear end. Extending downwardly from and pivoted to the flange 3 and in substantially a vertical plane therewith are a pair of rear legs 4 preferably made of angle iron and, at the forward end of each of the supports are a pair of legs 5 pivoted to the flange 2 at their upward ends and extending in a plane inclined outwardly from the end of the member 1. The pair of legs 4 are foldable and are adapted to be locked in outward or extended adjustment by a brace composed of two bars 6 and 7 having a pivoted interlock construction 8 at their overlapping inner portions and being pivoted to the legs 4 near the lower end thereof. The legs 5 are similarly braced by the same construction, including the bars 6 and 7 and the pivoted interlock 8. The forward and rear pairs of legs are cross-braced by bars 9 rigidly connected to the front and rear legs on each side. The supports thus constructed may be made of relatively light material so that they may be easily transported and readily set up in extended position, forming a very strong but light support.

Connected with the outer face of the flange 3 is a socket 10 and, connected to the bar 6 forming the rear support between the legs 4, is a socket 11. The sockets 10 and 11 are adapted to receive a standard 12, preferably made of a metallic tubular section of pipe, the lower extremity of which is pointed to form a spike 13. In order to lock the standard 12 in position, it is provided with a pin 14 that seats in notches 15 in the upper face of the socket 10.

Extending rearwardly from the standard 12 is a bar 16 which is pivoted to a sliding tower 17 mounted on the standard 12. The bar 16 carries at its lower end a pivoted bracket 18 having a spike 19 mounted therein. It will be obvious that forwardly extending brace bars 16^a, as shown in Fig. 2, similar in construction and arrangement to the bar 16, may also be provided for greater rigidity.

In assembling the structure, a plurality of the units A are first extended and the standards 12 mounted in place in the sockets 10 and 11. These units are then equally spaced and the ends of the standards 12 forced into the ground. The bars or braces 16 are then extended the proper distance from the standards 12 and the spike 19 driven into place. The units A are, therefore, positioned and rigidly braced in place. The bench proper is formed of sections and may be preferably of lengths of plank 20.

Each of the members 1 has formed in its upper face a double pair of slots 21 and, adjacent to the ends of each of the bench sections and on the under face thereof, are plates 22 bearing projections 23. The projections 23 are adapted to fit into and lock in the slots 21. When the sections of the bench are thus locked in position, they are firmly connected with the supports A and also provide bracing means for interbracing the supports.

In order to provide a support for a canopy over the bench structure, each of the standards 12 carries at its upper end a frame member 24 which is formed with a socket 25 connected with the member 24 by an angle brace 26. The upper end of the standard extends into the socket 25 and, in order to lock the member 24 from displacement, the standard carries a pin 27 that is received in notches 28 in the edge of the socket 25.

The member 24 carries at both its front and rear ends a lock construction that includes a

lever 29 pivoted at 30 to a portion of the member 24 at each end. Said lever 29 carries a U-shaped bale 31. Extending transversely both at the front and rear of the structure and between the standards 12 are a series of rods 32 having down-turned ends 33. The ends 33 of adjacent rods 32 are adapted to seat in openings 34 in the respective ends of the member 24. These downturned ends 33 of the rods 32 are locked in position by engagement of the upper portion of the bale 31 therewith and, by swinging the lever 29, the bale is drawn down against the ends of the rods 32, holding the rods in place and forming together a cross-bracing for the front and rear of the upper frame structure.

It will be understood that the rods 32 may be carried by the canvas that forms the roof of the canopy, but may be used separate from the canvas of the canopy as cross-braces in the event the canvas covering of the canopy is not used.

I am aware that the invention may be modified in numerous particulars without departure from the spirit and scope thereof, but what I claim and desire to secure by Letters Patent is:—

1. In a knock-down portable bench, the combination of a plurality of supports each comprising a horizontal supporting member, a pair of pivoted legs at each end of said supporting member, means for locking the legs in extended position, sockets supported at the rear of said supports, a standard having an extending spike terminal positioned below the lower ends of said legs and mounted in each of said sockets, and a plurality of seat sections arranged in longitudinal series and detachably connected respectively with one of said supports at the adjacent ends of said sections.

2. In a knock-down portable bench, the combination of a plurality of supports each comprising a horizontal supporting member, a pair of pivoted legs at each end of said supporting member, means for locking the legs in extended position, sockets supported at the rear of said supports, a standard having a spike terminal extending below the lower ends of said legs and mounted in each of said sockets, a plurality of seat sections arranged in longitudinal series and detachably connected respectively with one of said supports at the adjacent ends of said sections, and a bracing bar connected with each of selected ones of said standards and extending in inclined position therefrom.

3. In a knock-down portable bench, the combination of a plurality of supports each comprising a horizontal supporting member, a pair of pivoted legs at each end of said supporting member, one pair of said legs extending obliquely outwardly, means for locking the legs in extended position, sockets supported at the rear of said supports, a standard extending below the lower ends of said legs and mounted in each of said sockets, a plurality of seat sections arranged in longitudinal series and detachably connected respectively with one of said supports at the adjacent ends of said sections, a bracing bar connected with each of selected ones of said standards and extending in inclined position therefrom, and a spike at the lower end of said brace.

4. In a knock-down portable structure of the character described, a unit including a standard resting on a supporting surface, a horizontal member detachably secured to the standard, outwardly extending legs hinged to the horizontal member, means to limit the outward movement of the legs, an extended arm supported at the upper end of the standard, and means for releasably securing a cross connecting member to said arm whereby a plurality of such units may be connected in spaced relationship.

5. In a knock-down portable structure of the character described, a unit including a standard resting on a supporting surface, a horizontal member detachably secured to the standard, outwardly extending legs hinged to the horizontal member, means to limit the outward movement of the legs, an extended arm supported at the upper end of the standard, and means at the front and rear of said arm respectively for releasably securing cross connecting members thereto whereby a plurality of such units may be connected in spaced relationship.

6. In a knock-down portable structure of the character described, a unit including a standard resting on a supporting surface, a horizontal member detachably secured to the standard, pairs of legs, means for attaching said legs to the horizontal member, means for releasably securing the legs in extended position, an extended arm supported at the upper end of the standard, means for releasably securing a cross connecting member to said horizontal member, and means at the front and rear of said arm respectively for securing cross connecting members thereto, whereby a plurality of such units may be connected and braced in spaced relationship.

7. In a knock-down portable structure of the character described, a unit including a horizontal supporting member, legs hinged to said supporting member, folding bars connected to the lower extremities of the legs for locking the legs in extended position, means for interlocking a seat section to the horizontal supporting member, a standard, and members secured respectively to one end of the horizontal member and to an adjacent folding bar releasably holding the standard in vertical position.

JAMES H. BONNET.