

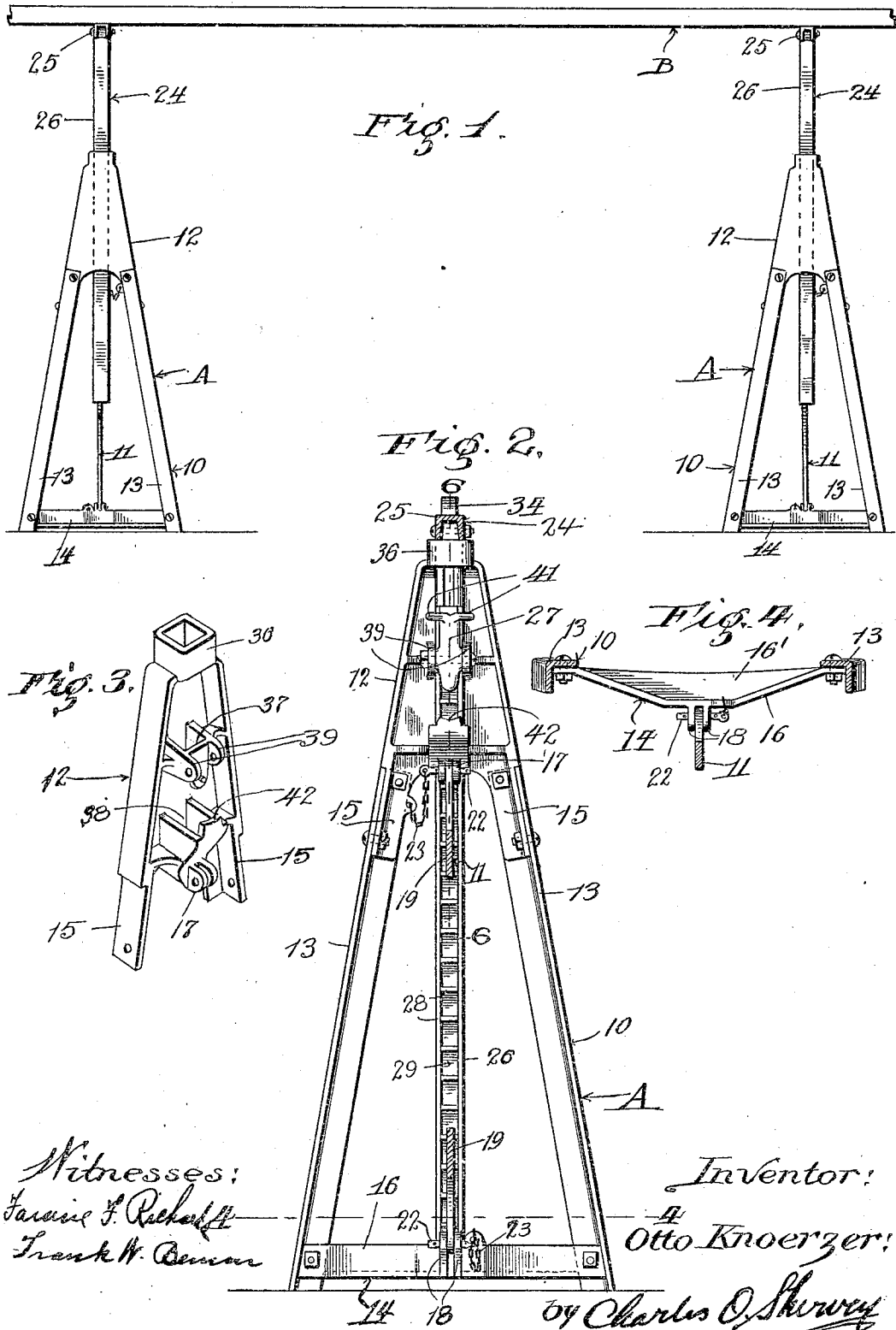
O. KNOERZER.
BUILDER'S TRESTLE.

APPLICATION FILED JAN. 18, 1909.

959,228.

Patented May 24, 1910.

2 SHEETS—SHEET 1.



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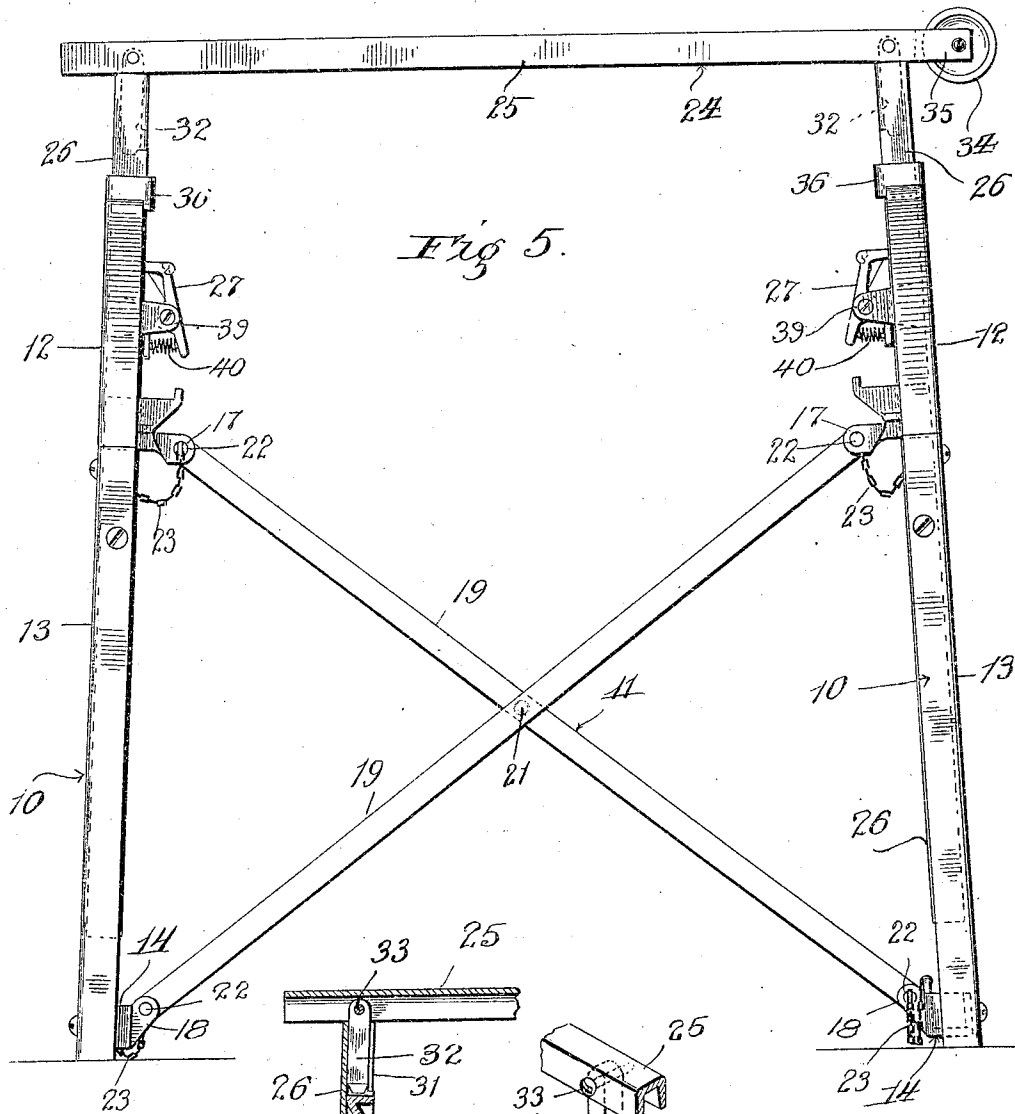


Fig. 6.

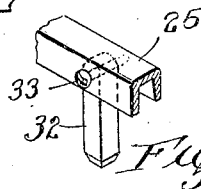
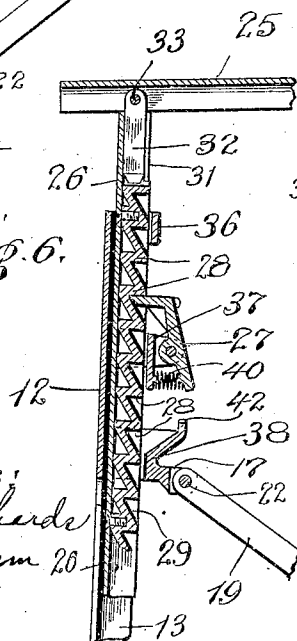


Fig. 7.

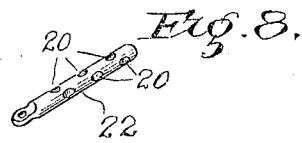


Fig. 8.

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UNITED STATES PATENT OFFICE.

OTTO KNOERZER, OF HAMMOND, INDIANA.

BUILDER'S TRESTLE.

959,228.

Specification of Letters Patent.

Patented May 24, 1910.

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To all whom it may concern:

Be it known that I, OTTO KNOERZER, a citizen of the United States, residing at Hammond, in the county of Lake and State of Indiana, have invented new and useful Improvements in Builders' Trestles, of which the following is a specification.

This invention relates to builders' trestles.

The object of the invention is to provide an improved trestle of this class which may be readily assembled for use or knocked down for shipment or transportation.

It further relates to a trestle which is capable of vertical extension, so that the platform which is supported by the trestle may be raised for the accommodation of the workman who is standing upon the same.

It further relates to the several novel features of construction, combination and arrangement of parts which are fully described in this specification and particularly pointed out in the claims appended hereto.

The invention is clearly illustrated in the drawings furnished herewith in which—

Figure 1 is a face view of a trestle-work formed of two of my improved trestles and a plank, Fig. 2 is a side view of one of the side frames of the trestle, Fig. 3 is a perspective view of a connecting member, Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 2, Fig. 5 is a front view of the trestle, Fig. 6 is a vertical section taken on the line 6—6 of Fig. 2, Fig. 7 is a perspective view of a fragment of a post and cross bar and Fig. 8 is a perspective view of a pin used for locking together certain members of the trestle.

In building a trestle-work of this class, two or more trestles A, are employed to support planks or boards B, upon their upper ends. The trestle-work thus formed furnishes a raised platform for workmen to stand upon in erecting the walls of buildings or other structures, and the trestles A, form the subject matter of my present improvement.

As shown in the drawings, my improved trestle comprises two A shaped side frames 10, which are braced apart by means of struts 11. In its preferred form each side frame comprises a connecting member 12, preferably in the form of a casting, two legs 13, secured to said connecting member and a horizontal cross bar 14, secured to the lower ends of the legs. The connecting member 12, has two offset terminal portions

15, upon its lower end, and the legs 13, are bolted or otherwise secured upon said offset portions with the outer faces of the legs set flush with the corresponding outer faces of the connecting member. In the form shown, the legs comprise angle irons and the terminal ends 15, of the connecting member 12, are shaped to fit the inner angle of the legs. The cross bar 14, is bolted or otherwise secured to the lower ends of the legs and preferably contains a vertical web 16, and a horizontal web 16', the horizontal web 16', serving as a base to rest upon soft ground or sand and prevent the trestle from sinking into the ground or sand, whenever the structure is placed upon such soil or sand. The connecting members 12, and cross bars 14, of each side frame contain inwardly extending ears 17, 18, for attachment to the strut 11. The two members 19, of the strut extend in an oblique direction from the ears on the cross bar 14, to the ears on the connecting member 12, cross each other midway between their ends, and are secured together at the crossing by means of bolts or other fastening means 21. Pins 22, secured to chains 23, are provided for connecting the ears with the struts and said chains are preferably secured to the side frames 10. In securing the strut 11, in place, the pins 22, are simply thrust through the holes in the ears and members 19, of the strut. It is preferred to roughen the sides of the pins, so as to prevent any danger of the pins slipping out of the holes after they have been inserted in place. The preferred manner of roughening the pins is to form hollows 20, in their surfaces as shown in Fig. 8. This arrangement effectively prevents accidental removal of the pins by reason of the engagement of the strut or ears with the sunken portions.

A vertically movable, platform supporting member 24, is supported by the side frames and in the preferred form said member comprises a cross bar 25, and two detachable posts 26. The posts are slidably mounted in the side frames and are supported therein by means of dogs 27, which engage with the teeth 28, of rack bars 29, secured in the posts. As shown, each post comprises a channel shaped member 30, in the channel of which is secured the rack bar 29, as for instance by bolting or screwing it therein, and the two flanges of the channel bar 30, are bent inwardly at their

upper ends to provide overhanging edges 31, thus forming a socket in the upper end of the post. The cross member 25, is provided with two downwardly extending pins 32, which are adapted to be inserted in the sockets in the upper end of the posts for the purpose of securing the cross bar upon the same. In the preferred form the pins 32, are pivotally secured to the cross bar as for instance by means of bolts or rivets 33, and the pins are therefore free to swing upon the cross bar. A guide wheel 34, is journaled in the forked end 35, of the cross bar 25, and this wheel is arranged to roll along the wall of the building which is being erected.

A long bearing is provided in each of the side frames for the posts 26, and as shown this long bearing is formed by means of three yokes 36, 37, 38, preferably formed integral with the connecting member 12, of the side frames. Considerable play is allowed between the posts and bearings for the reason that the two side frames incline toward each other at their upper ends. It is quite evident, however, that whenever the supporting member 24, is raised up to any height, the parts will bind together and become rigid so that the structure will have the necessary stability while the supporting frame 24, is in its highest position as well as when in its lowest position. By reason of the comparatively light construction of the parts, the posts will bend when the supporting frame is moved up to its higher positions, so that while the side frames of the base incline toward each other, the supporting frame may be raised by reason of the flexibility or yielding of the parts. The dog 27, is pivoted between ears 39, which extend out from the yoke 37, and a spring 40, is interposed between the dog and outer face of the yoke for the purpose of holding the dog in engagement with the rack bar 29. If desired handles 41, may be provided upon the dogs to enable the person to withdraw them from the rack bar 29.

A ledge 42, is provided upon each connecting member which may be used as a fulcrum for a crowbar or other tool used in raising the posts. The crowbar may be thrust under one of the teeth of the rack bar and by using the ledge 42, as a fulcrum, the post may be raised one tooth, whereupon the dog 27, will spring into place underneath the tooth which has been brought up on a level with it. This is continued until the supporting frame has been raised as high as is desired.

In the use of this trestle the mason or concrete worker builds the wall up to say about four and one-half or five feet. The trestle-work is then put in place and the workman climbs upon the same and builds the wall up to say a level with his waist. This being the most convenient way to continue the

work, the assistants raise the platform after he has laid each course or two of bricks, thereby maintaining the platform in such convenient working position with respect to the top of the wall. After the support 24, has been moved to its uppermost position, the boards or planks B, are taken down and the support 24, lowered. If it is found that the friction between the posts and the side frames is so great that the support 24, cannot be readily lowered, the cross bar 25, may be given a violent blow from underneath, whereupon the pins 32, will be disengaged from the sockets in the upper ends of the posts, and the cross bar 25, may then be removed and the posts lowered, by simply withdrawing the dogs 27, out of engagement with the teeth of the rack bar. If it is desired to completely knock down the device, the pins 22, may be withdrawn from the holes in the ears 17, 18, and the strut member 11, and the strut can then be folded up to lie alongside of the side frames.

I am aware that more or less variation of the details of construction is possible without departing from the spirit of my invention, and I do not therefore desire to limit myself to the exact structure shown and described.

I claim as new and desire to secure by Letters Patent:

1. In builders' trestles, the combination with a base having substantially vertical guideways therein that incline toward each other, and retaining dogs, of a vertically movable supporting frame having posts guided in said inclined guideways, a rack bar on each of said posts and co-acting with the dogs to carry the supporting frame in a plurality of positions.

2. In builders' trestles, the combination with a base having substantially vertical guideways therein that incline toward each other, and retaining dogs, of a vertically movable supporting frame, comprising a cross bar, downwardly extending hollow posts pivoted thereto and guided in said inclined guideways in the base, and a rack bar secured in each of said posts and co-acting with the dogs to carry the supporting frame in a plurality of positions.

3. In builders' trestles, the combination with a base having substantially vertical guideways therein that incline toward each other, and retaining dogs, of a vertically movable supporting frame comprising a cross bar, downwardly extending pins pivotally secured to said cross bar, posts having sockets at their upper ends for engagement with said pins and guided in said inclined guideways and teeth on said posts for engagement with the retaining dogs.

4. In builders' trestles, the combination with a base having substantially vertical guideways therein that incline toward each

other, and retaining members, of a vertically movable supporting frame comprising a channel shaped cross bar, two downwardly extending pins pivotally secured to said cross bar, channel shaped posts running in said inclined guideways and having sockets in their upper ends for engagement with said pins, and teeth for engagement with said retaining dogs.

5. In builders' trestles, the combination with a base having two upwardly extending and inwardly inclining side frames which are provided with guideways therein that incline toward each other, retaining dogs, and a strut connecting said side frames, of a vertically movable supporting frame, comprising a cross bar and two posts removably connected with said cross bar and guided in said inclined guideways, said posts being provided with teeth on their inner edges for engagement with the retaining dogs of the side frames.

6. In builders' trestles, the combination with a base comprising two suitably connected A shaped side frames which incline toward each other at their upper ends and have guideways therein which incline toward each other, and retaining dogs, of a vertically movable supporting frame comprising a cross bar, two pins pivotally secured thereto, and posts guided in the inclined guideways in the side frames and having sockets for engagement with the pins and teeth for engagement with the dogs.

7. In builders' trestles, the combination with a base comprising two connected side frames that incline toward each other, each comprising two legs, a cross bar and a connecting member having a plurality of yokes arranged to form a vertically inclined guideway therein, the two guideways being arranged to incline toward each other, of a vertically movable supporting frame having a cross bar, two posts pivotally secured thereto and running in the inclined guideways of the side frames, and teeth on said posts adapted to engage with dogs upon the side frames whereby the supporting frame may be supported in a plurality of positions.

8. In builders' trestles, the combination with two side frames having substantially vertical guideways therein that incline to-

ward each other, and pivoted retaining dogs, and a connecting strut for removably securing together said side frames, of a supporting frame having a cross bar, posts pivotally secured thereto and guided in said inclined guideways and rack bars in said posts for engagement with said retaining dogs.

9. In builders' trestles, the combination with a cross bar having a downwardly extending pin secured thereto, of a channel shaped post whose flanges are bent inwardly toward each other at the upper end to form a socket for the pin.

10. In builders' trestles, the combination with two side frames and a connecting strut, each side frame having a substantially vertical guideway therein which inclines toward the other guideway, a retaining dog and a lug adapted to act as a fulcrum for a lever, of a supporting frame having pivoted posts guided in said inclined guideways and rack bars for engagement with said dogs.

11. In builders' trestles, the combination with two side frames arranged to incline toward each other and having substantially vertical guideways therein that incline toward each other, and two crosswise arranged bars secured at their crossing point and having their ends secured to the side frames to form a truss-like connection between the side frames, of a supporting frame having a cross bar and posts pivotally secured thereto and slidably mounted in said inclined guideways and connections between said side frames and posts for holding the latter in a plurality of positions.

12. In builders' trestles, the combination with two side frames which incline toward each other and are provided with substantially vertical guideways that incline toward each other, and a strut having crosswise arranged bars detachably connecting said side frames, of a supporting frame having detachable posts sliding in said inclined guideways and being adjustably supported therein.

In witness whereof, I have hereunto subscribed my name at Hammond, Indiana, this 12th day of January 1909.

OTTO KNOERZER.

Witnesses:

LINCOLN V. CRACRUS,
ALLEEN MCCOY.