D. J. TAVENNER.

TENTER FRAME.

APPLICATION FILED JULY 22, 1908.

918,220. Patented Apr. 13, 1909.

Fig. 1.

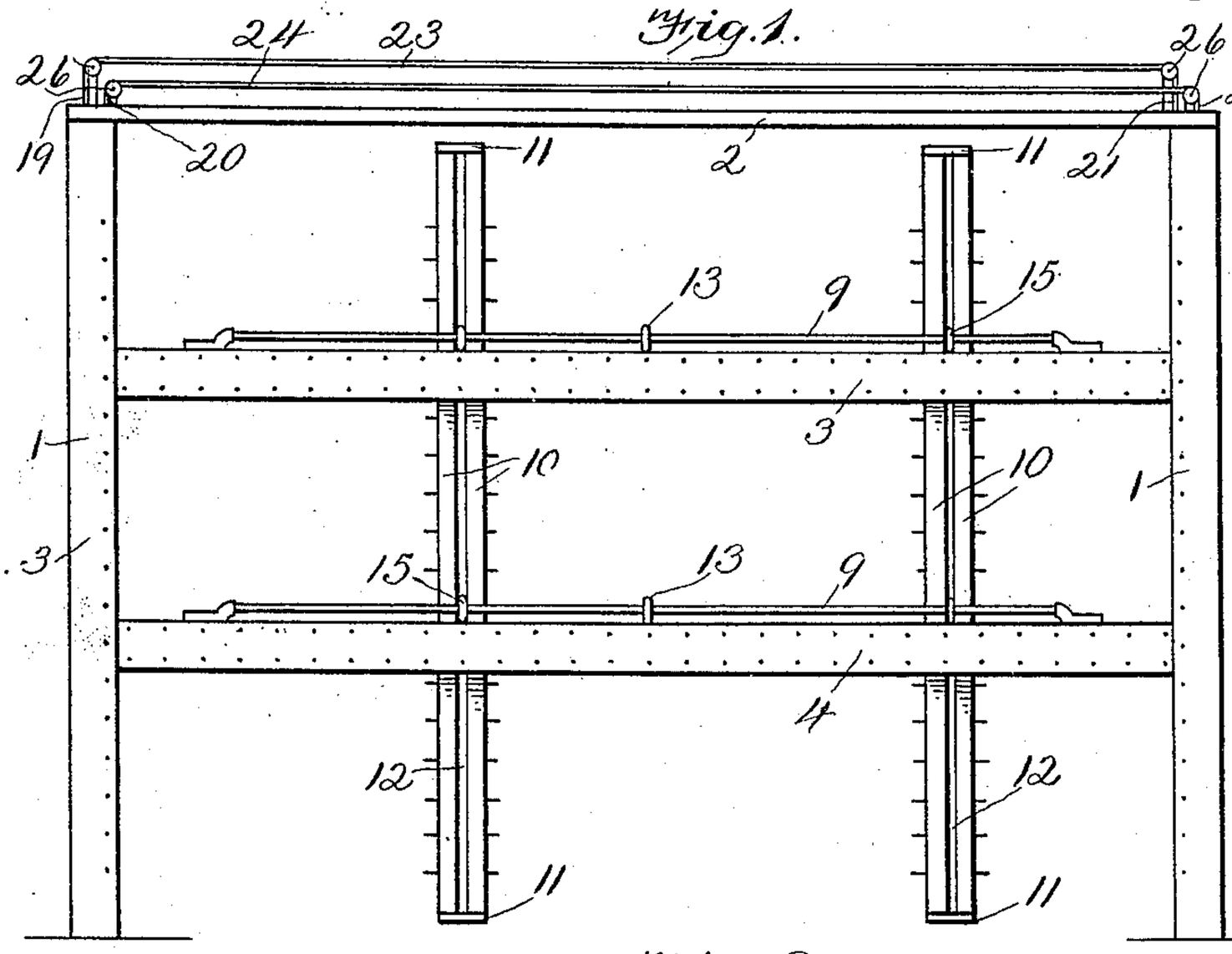


Fig. 2.

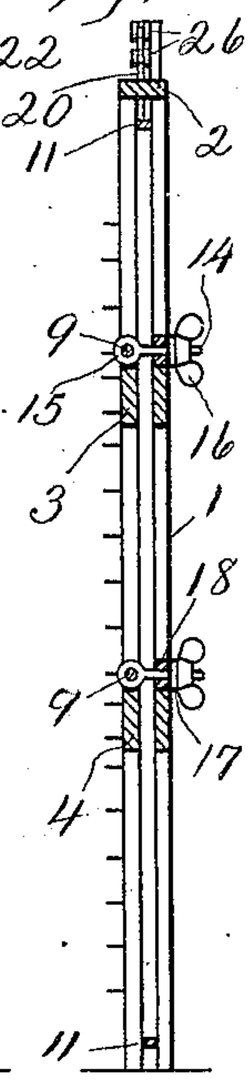


Fig. 3.

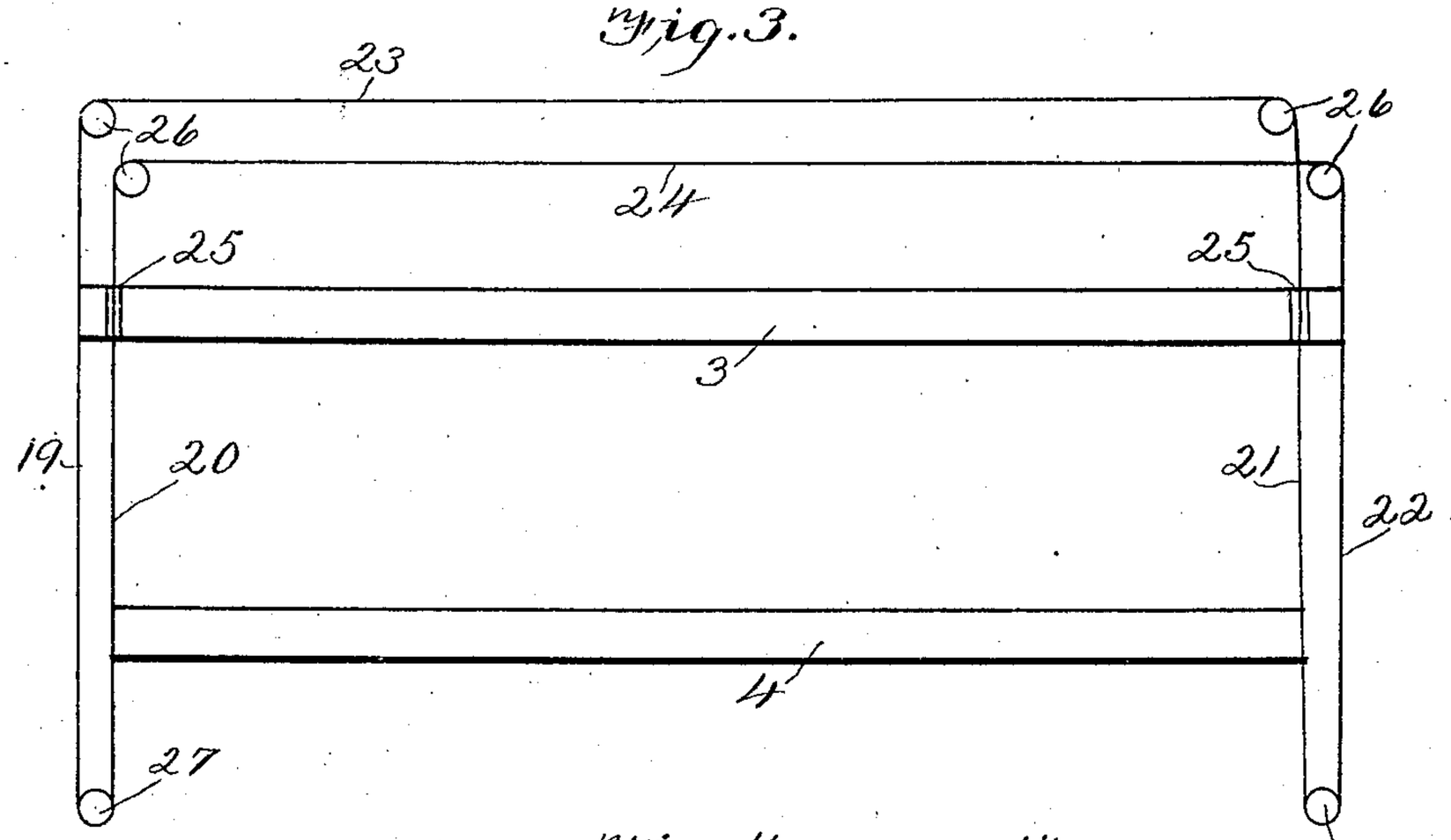
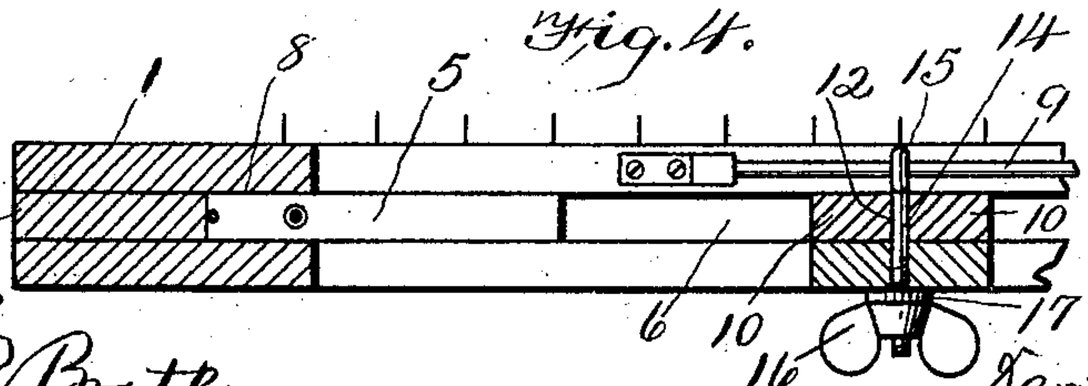


Fig. 4.



Witnesses

T. P. Brite

Ger. Heinicke

Inventor

David J. Tavenner

By J. Dittman.

Attorney

UNITED STATES PATENT OFFICE.

DAVID J. TAVENNER, OF WASHINGTON, DISTRICT OF COLUMBIA.

TENTER-FRAME.

No. 918,220. Specification of Letters Patent. Patented April 13, 1909.

Application filed July 22, 1908. Serial No. 444,813.

To all whom it may concern:

Be it known that I, DAVID J. TAVENNER, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Tenter-Frames, of which the following is a full, clear, and exact specification.

The present invention relates to a frame for stretching and drying fabrics of all kinds and more especially curtains. The frame is adjustable to fit all sizes in length or width of curtains. To this end two horizontal bars, slotted and provided with hooks or tacks are movable up and down apart or toward each other, and two vertical bars carrying tacks on the outer edges are adapted to slide in horizontal direction being guided in the slots of the horizontal bars. Thus the hooks or tacks carrying the curtain or other piece of goods can be readily adjusted to its size. The horizontal bars are counterbalanced so that only a small effort is necessary for moving the same.

In the accompanying drawing forming part of this specification: Figure 1 shows the new frame in front elevation. Fig. 2 is a vertical cross-section. Fig. 3 is a diagrammatical view illustrating the arrangement of the ropes to counterbalance the horizontal bars.

The new frame is composed of two end posts 1, 1, a cap-plate 2 connecting the top ends, and two horizontal bars 3 and 4 having their ends guided in the parts 1, and being vertically movable so that they can be approached to or removed from each other. They are properly counterbalanced in this movement as will be hereinafter explained.

The bars 3 and 4 are suitably made up of two parallel strips of wood connected at the ends by tongue pieces 5 (as shown in Fig. 4) so that each bar presents a longitudinal slot 6 and the outer ends of the tongues enter into grooves of the posts 1. These posts are preferably built up in a similar manner, that is to say two strips of wood of the same width of the posts are connected by a narrower strip 7 so that at the inner edge a guide groove 8 is formed.

On the top edge of one of the strips constituting the horizontal bars, guide rods 9 (preferably of round cross-section) are provided to carry and to guide two vertical bars 10 which are movable horizontally in the slots 6 of the horizontal bars. The bars 10 are made of two strips of wood carrying tacks at their edges and being united at the ends by cross-pieces 11 in such a manner that they present a narrow longitudinal slot 12. The thickness of the vertical bars 10 is a trifle less than the width of the slots 6 so that a displacement within the horizontal bars is easy. In order to stiffen the guide rods 9, they are preferably supported in their middle by a staple 13, screw-ring or similar element.

Screw bolts 14 each having a ring or eye 15 at the end, are adapted to slide with their eyes on the guide rods 9, said bolts passing through the slot 12 of the vertical bars, and each bolt carrying in front a thumb nut 16, washer 17 and a cleat 18 so that by a few turns of the nut 16 the vertical bars can be easily and securely clamped to the horizontal bars in any desired position. It will be understood that when all the clamps are loosened the bars 10 can easily be moved horizontally on the rods 9 to any desired position and the horizontal bars 3 and 4 can be shifted upward or downward, their ends being guided in the posts. In order to make this adjustment easy these bars 3 and 4 are counterbalanced by ropes as shown in the diagrammatic view Fig. 3. It is practically an endless rope properly guided over pulleys as shown in this figure with four vertical strands 19, 20 21 and 22, and two horizontal strands 23 and 24.

The upper bar is secured to the outer strands 19 and 22 and the lower bar is secured to the inner strands 20, 21. For the passage of these latter through the upper bar, holes 25 are provided. The pulleys 26 are secured on the top plate and pulleys 27 near the floor are preferably secured in the guide grooves of the posts. The edges of the posts and of all the bars are provided with tacks as shown.

The device operates in the following manner: A wet piece of fabric or a curtain is secured with its front edge to the tacks of the upper bar 3 either on the lower row of tacks alone when the edge of the fabric is straight, or on both rows when the edge of the curtain is indented. Then the horizontal bars are approached to each other till the tacks of the lower bar are at level with the rear edge of the curtain. As soon as the rear edge is fastened to these tacks the bars are slightly forced apart so as to stretch the curtain. Now the vertical bars are moved in line with the ends of the curtain and the ends are

tacked to the vertical bars. Finally the frame is clamped together by tightening the thumb screws while the vertical bars are pressed with the hand sidewise so as to slightly stretch the end of the curtain hooked thereto. Thus the parts of the frame embracing the curtain are made rigid and the tacks holding the curtain present a true rectangle on which the curtain is allowed to dry.

It is evident, that one end of the curtain may be secured to the stationary edge post and only one of the vertical bars may be used for the other end of the curtain. The two clamps of this vertical bar are quite sufficient to make the drying rectangle rigid.

By moving the horizontal bars 3 and 4, it is immaterial whether a pressure is given in the middle or near one end. If for instance the hand presses down the bar 4 at the left end the pressure will be transferred on the rope 20 and the downward motion will compel the horizontal strand 24 to follow so that the vertical strand 22 rises and pulls the companion strand 21 down taking along the other end of the bar 4 for the same distance as the left end is moved down. The strand 22 in rising lifts the right side end of the bar 3 and the left side end of this bar is also raised with the strand 19 as will be easily understood.

Having thus described my invention, what I claim is:

1. A tenter-frame comprising end posts, a cap plate, horizontal bars guided in said end posts and vertically movable therein, means for counterbalancing said bars, vertical bars, means for guiding the same, and means for clamping the vertical bars to the horizontal bars in their adjusted position.

2. A tenter-frame comprising a pair of counterbalanced horizontal bars provided with tacks or other suitable curtain-engaging devices, said bars being mounted for movement toward and from each other, a second pair of bars disposed at right angles to the first-mentioned bars and movable at right angles thereto, guide rods secured to the upper faces of the first-mentioned bars and connections between said guide rods and the last-mentioned bars.

3. A tenter-frame comprising a pair of counterbalanced horizontal bars provided with tacks or other suitable curtain-engaging devices, said bars being mounted for movement toward and from each other, a second pair of bars disposed at right angles to the first-mentioned bars and movable at right angles thereto, guide rods secured to the upper faces of the first-mentioned bars, connections between said guide rods and the last-mentioned bars the same embodying eyes on said guide rods passed through slots in the vertical bars, and clamping means on the shanks of said eyes.

In testimony whereof I affix my signature.

DAVID J. TAVENNER.

In the presence of—
GEO. HEINICKE,
F. FRANKE.