

Feb. 4, 1930.

C. A. DUKE

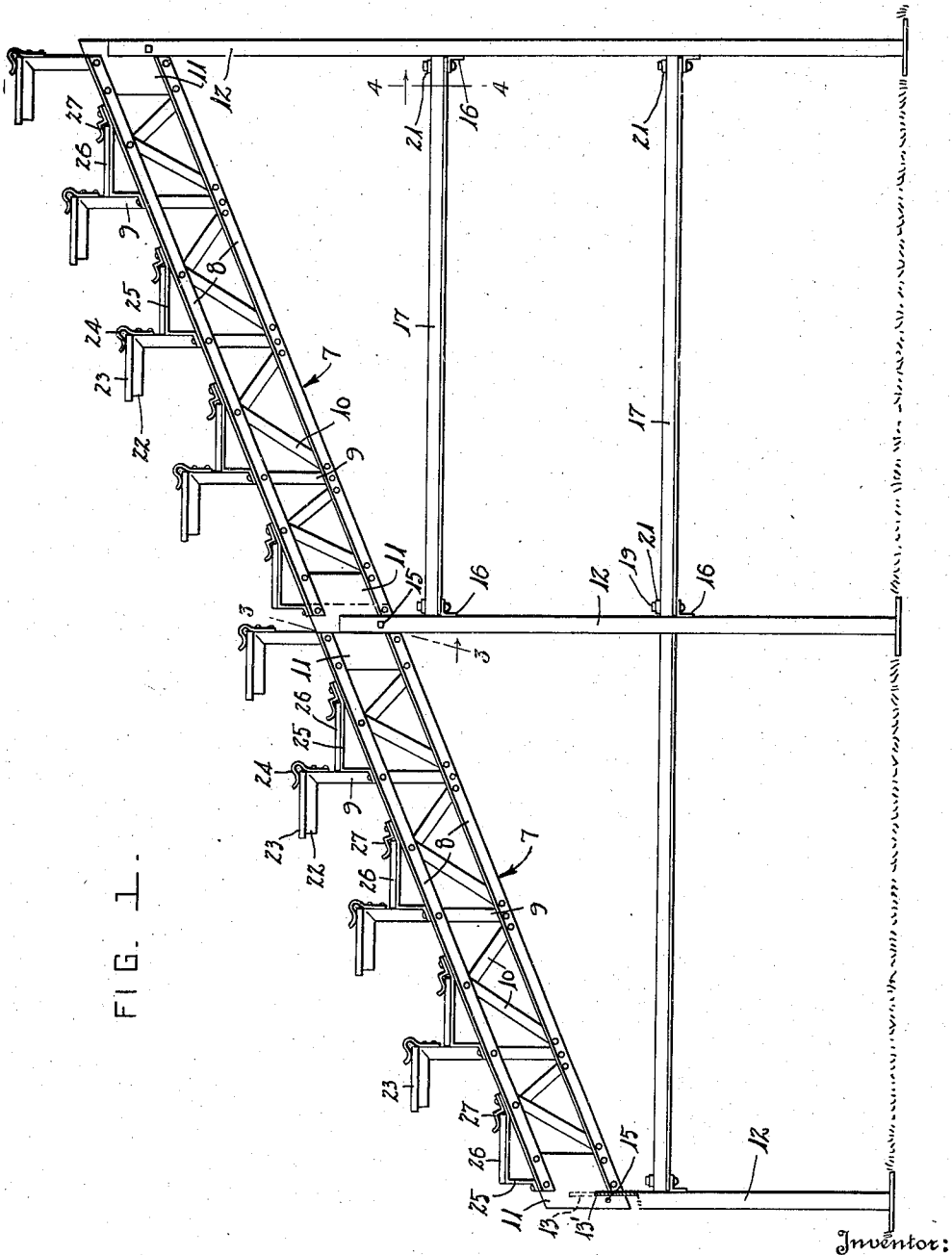
1,746,147

KNOCK-DOWN STAND

Filed Jan. 17, 1929

2 Sheets-Sheet 1

FIG. 1.



Inventor:

Charles A. Duke

By

Monroe Miller

Attorney.

Feb. 4, 1930.

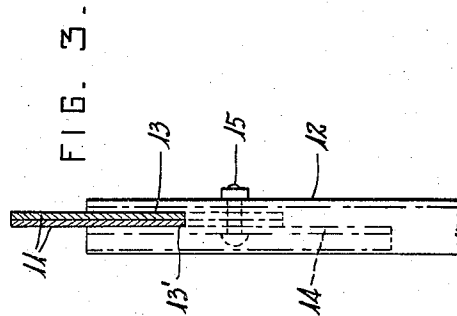
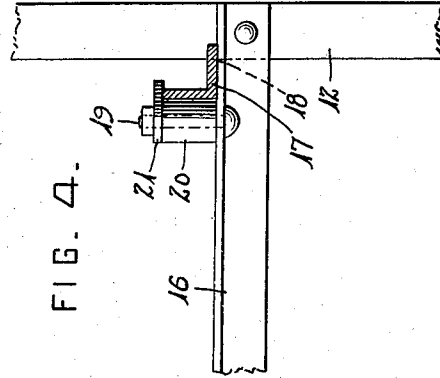
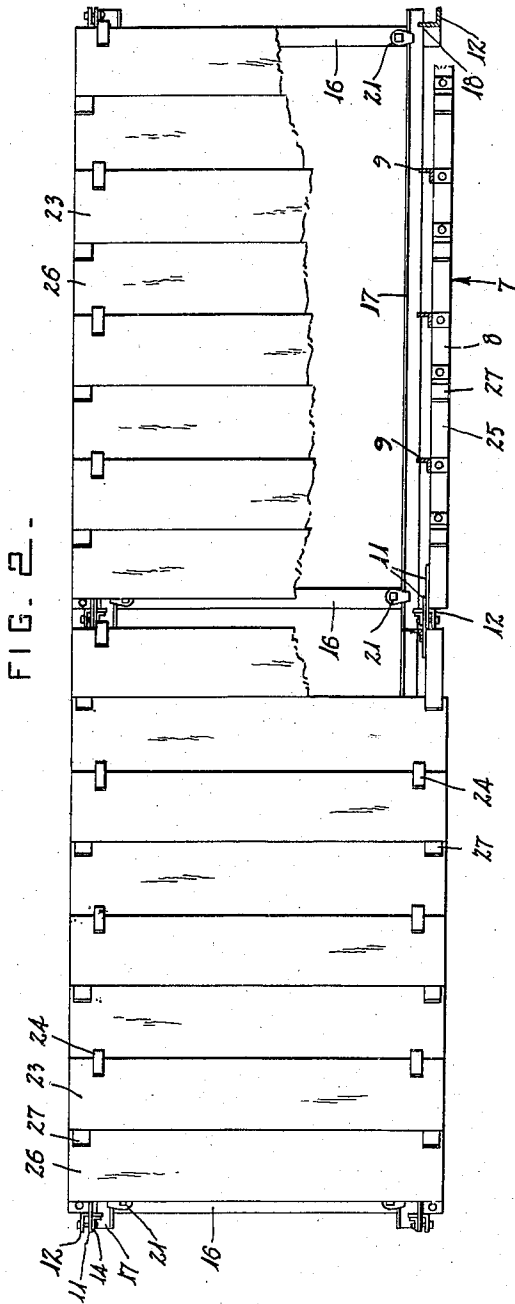
C. A. DUKE

1,746,147

KNOCK-DOWN STAND

Filed Jan. 17, 1929

2 Sheets-Sheet 2



Inventor:

Charles A. Duke

By

Monroe Miller

Attorney.

UNITED STATES PATENT OFFICE

CHARLES A. DUKE, OF NEW YORK, N. Y.

KNOCKDOWN STAND

Application filed January 17, 1929. Serial No. 333,114.

The present invention relates to knock-down portable stands, such as are used to furnish seats for viewing parades, circus performances, athletic games, etc., and the invention aims to provide a portable stand which is comparatively light in weight and which may be quickly set up and knocked down.

Another object of the invention is the provision of a portable stand wherein the parts may be assembled without the use of bolts or other securing elements, but with all the safety factors of a securely bolted structure.

A further object is to provide novel means for receiving and holding the seat and foot boards, to provide a novel assembly of the stringers and supports, and to provide a novel bracing means for the supports.

With the foregoing and other objects in view, which will be apparent as the description proceeds, the invention resides in the construction and arrangement of parts, as hereinafter described and claimed, it being understood that changes can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of the improved portable stand, portions being broken away.

Fig. 2 is a plan view thereof, portions being broken away.

Figs. 3 and 4 are enlarged sectional details on the respective lines 3—3 and 4—4 of Fig. 1.

The stand includes the inclined stringers 7 comprising the parallel upper and lower angle irons 8 to which are secured the vertical angle iron posts 9 and braces 10. These stringers may therefore be light in weight and at the same time capable of supporting considerable weight.

Web plates 11 are secured to the terminals of the angle irons 8 to engage the supports or stanchions 12, said supports being of angle iron and having inturned flanges provided at their upper ends with slots 13 to receive the plates 11, and the plates 11 have downwardly opening slots 13' to receive the support flanges below the slots 13, thereby fitting the plates

and supports together against displacement relatively to one another other than vertical separation.

Vertical angle irons 14 are secured to the inturned flanges of the supports 12 to assist in stiffening said supports where they would otherwise be weakened adjacent to the slots 13, and the plates 11 are disposed between said angle irons 14 and outer flanges of the supports. Pins, bolts or other elements are preferably inserted through apertures in the angle irons 14, plates 11 and outer flanges of the supports 12, to prevent the plates 11 from lifting out of the slots 13.

As shown, each unit of the stand comprises two stringers 7 at each side arranged end to end in alignment, with the adjacent plates 11 overlapping and engaging the corresponding intermediate support 12. Any number of the stand units may be assembled side by side, and end to end, and the supports 12 may be of different heights for supporting the stringers of different units at the desired heights.

Transverse tie bars or angle irons 16 are secured to the supports 12 and together with longitudinal tie bars or angle irons 17 brace the supports 12, in order to make the structure more rigid and to enable supports of lighter weight to be used. The tie bars 16 connect the supports 12 in pairs, and the bars 17 are detachably connected with the supports 12 and bars 16.

Thus, the bars 17 extend across and rest upon the bars 16 and have notches 18 in their lower flanges to engage the inturned flanges of the supports, thereby preventing the longitudinal movement of the bars 17 relatively to the supports 12. Bolts or rivets 19 are secured through the bars 16 adjacent to the supports 12 and have spacer sleeves 20 thereon, with latches 21 on said elements 19 seating on the sleeves 20.

The bars 17 are inserted downwardly between the sleeves 20 and supports 12, with the notches 18 engaging said supports, thereby holding the bars 17 in engagement with the supports. The latches 21 are then turned to project over the upstanding flanges of the bars 17, thereby preventing said bars from

becoming accidentally detached. However, the latches 21 may be turned to release the bars 17 when separating the parts.

The posts 9 project above the stringers and have their upper terminal portions 22 bent at a right angle to extend forwardly, for supporting the seat boards 23. Leaf spring clips 24 are secured to the posts 9 and are so arranged that the rear edge portions of the boards 23 move under said clips, thereby springing the clips so that they hold the boards in place against accidental displacement. The boards may be readily moved under and disengaged from the clips 24.

Angularly bent bars 25 are secured on the stringers 7 to support the foot boards 26, and leaf spring clips 27 are secured on the stringers to engage the rear edge portions of the boards 26 similar to the provision of the clips 24 for holding the boards 23.

The structure may be readily erected and knocked down, and is light in weight so that the parts may be readily handled and transported. The structure, when erected, is also rigid.

Having thus described the invention, what is claimed as new is:

1. A portable stand comprising stringers having terminal plates and supports, said supports and plates having slots for the interengagement thereof.

2. A portable stand comprising stringers having terminal plates, and supports having upwardly opening slots to receive said plates, the plates having downwardly opening slots to engage said supports.

3. A portable stand comprising pairs of supports, stringers mounted on said supports, tie bars connecting the supports of the pairs and spaced below the stringers, other bars engageable with said supports and firstnamed bars at an angle to the firstnamed bars, and means for detachably holding the last named bars in place.

4. A portable stand comprising pairs of supports, tie bars secured to the supports of the pairs, other bars extending across the firstnamed bars and having notches engaging said supports, and latching means for holding the secondnamed bars in place with their notches engaging said supports.

5. A portable stand comprising pairs of supports, tie bars connecting said supports of the pairs, other bars extending across the firstnamed bars and having notches to engage the supports, members on the firstnamed bars to hold the secondnamed bars in engagement with the supports, and latches on said members to engage the secondnamed bars for holding them in place.

In testimony whereof I hereunto affix my signature.

CHARLES A. DUKE.