M. PAQUETTE.

FOLDING GRANDSTAND.

APPLICATION FILED JAN. 25, 1911.

1,067,440. Patented July 15, 1913.

Fig. 1.

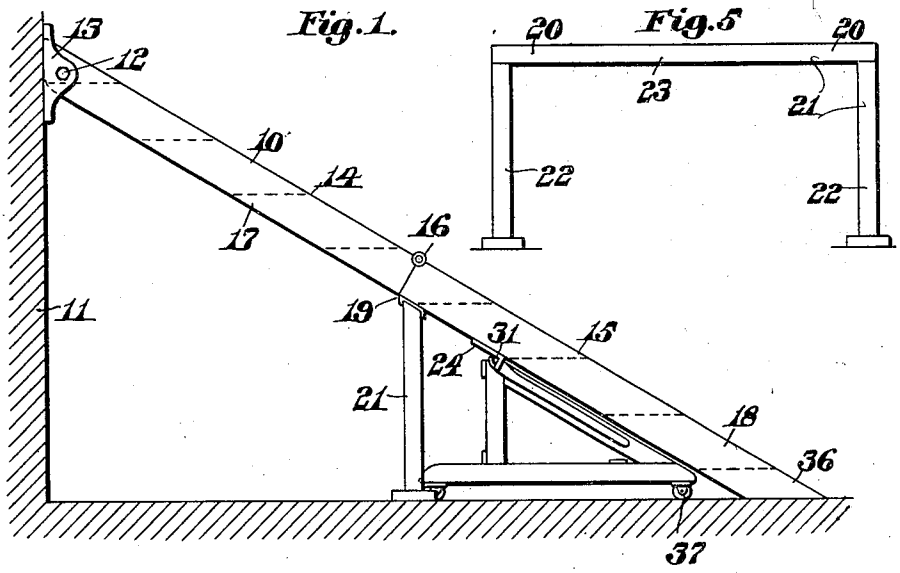


Fig. 5

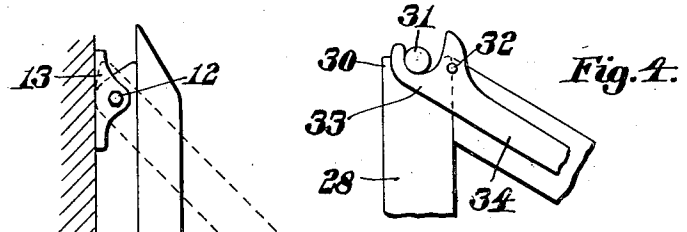
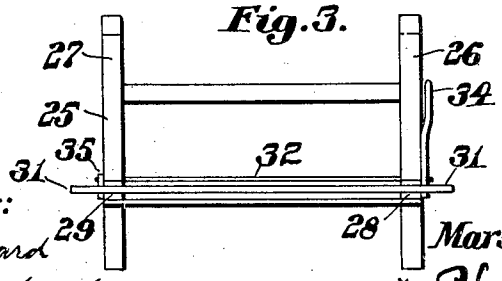


Fig. 4.

Fig. 2.

Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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FOLDING GRANDSTAND.

1,067,440. Specification of Letters Patent. Patented July 15, 1913.

Application filed January 25, 1911. Serial No. 604,590.

To all whom it may concern:

Be it known that I, MARSHALL PAQUETTE, a subject of the King of England, residing at Worcester, in the county of Worcester, State of Massachusetts, have invented a certain new and useful Improvement in Folding Grandstands, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to folding grandstands and methods of raising and lowering the same and has for its object the providing of a simple and efficient device which can be easily operated.

On account of the necessity of using grandstands in buildings which must frequently be used for other purposes and the expense and trouble of building these stands and then taking them apart, it has been found to be necessary to devise some form of stand which can be readily folded and packed away in a small space. On account of the weight necessary in an article of this kind intended to seat a considerable number of people, great difficulty is encountered in handling the sections to fold them and the operation would normally require the services of a considerable number of men. In consideration of this a method has been devised by which the stand becomes practically self operating and a section of reasonable size can be easily folded by one man.

The numerous features of the device and of the method of folding will be fully described hereinafter.

One embodiment is shown in the drawings in which—

Figure 1 is a side elevation of the invention complete, showing the stand extended and with the means in readiness for folding the same, as will be described hereinafter. Fig. 2, same as Fig. 1 with the stand in folded position as will be described hereinafter. Figs. 3, 4 and 5, detailed views, as will be described hereinafter.

Referring to the drawings, the stand 10 is pivotally secured to the wall 11 by means of the rod 12 secured in the brackets 13. This stand 10 is composed of two parts 14 and 15 which will hereinafter be referred to as the upper and lower parts respectively, and these parts are pivotally connected by a hinge 16. On each side of the stand and at intervals between them, if the width is sufficient to warrant it, are supporting beams or channel irons 17 and 18 on the parts 14 and 15 respectively. As the beam or iron at the opposite end of the section of the stand is similar to the one shown on the near end, it has not been deemed necessary to show these parts as the description of the beams or channel irons 17 and 18 apply equally to the corresponding parts on the opposite end.

Near the upper extremity of the channel irons 18 are secured sockets 19 in which rest the extremities 20 of the support 21 shown in Fig. 5 of the drawings. This support 21 may be of any desired form but the type shown in the drawing consisting of uprights 22 connected at their upper extremities by a cross piece 23 has been found to be a simple and efficient one. This support maintains the stand in its position of use.

On the under side of each of the channel irons 18 preferably at a point where the weight of the lower extremity of the part 15 will balance the remaining portions of the section, are secured angle irons 24.

When it is desired to fold the stand into the position shown in solid lines in Fig. 2, the truck 25 is run beneath the part 15 in the position shown in Fig. 1. This truck is preferably of less width than the distance between the outer channel iron 18 to permit the forward extremities of the truck to pass between them in the position shown in solid lines in Fig. 2 when the stand is folded. It will be readily evident that this truck might be constructed in a considerable number of ways but the type shown has been found to be simple and efficient and is shown here for the purpose of illustration rather than limitation. In the drawings, this truck is composed of main supports 26 and 27 on which are mounted uprights 28 and 29 respectively. The upper extremities 30 of each of these uprights is preferably constructed U shape or grooved to permit the rod 31 to rest therein. This rod 31 should preferably be of greater length than the distance between the channel irons 18 so that when the truck is in position, the extremities of this rod will rest within the angle irons 24 as is shown in Figs. 1 and 2 of the drawings. Upon the pivot rod 32 on the upright 28 is fastened a lever or dog 33 and this lever is provided with a handle 34. The rod 32 is provided with suitable bearings in the upright and extends between the uprights 28

and 29. On the opposite extremity of the rod 32 is fastened another dog 35 which is similar to the dog 33 except that it is not provided with a handle as this dog is operated by the rod 33.

To fold the stand, shove the handle 34 downwardly, thus raising the rod or roller 31 which acts against the angle irons 24 to raise the stand sufficiently to permit the support 21 to be removed from the sockets 19. As soon as this support is removed, the handle should be released permitting the stand to rest on the rod or roller 31. The operator should then raise the lower extremity 36 of the part 15 of the stand which will cause the parts 14 and 15 to move into the position shown in dotted lines in Fig. 2. As the raising of the extremity 36 continues, the truck will be drawn toward the wall 11 on the roller 37 by the angle irons 24 and the parts will come into the position shown in solid lines in Fig. 2. If the angle irons 24 were properly located so that the weight of the extremity 36 balances the remaining portions of the stand, it will only be necessary for the operator to exert a slight pressure on the extremity 36 to overcome this balance and close the stand as the weight of the stand will practically cause it to operate itself. To lower the stand into the position for use, it is only necessary to exert a slight pressure on the stand to pull it away from the wall until it has assumed the position shown in dotted lines in Fig. 2 and then to depress the extremity 36 of the part 15 until the stand is in the position shown in Fig. 1 when the stand may be raised by the action of the dogs 32 and 35 to permit the support 21 to be inserted in the same method as it was removed.

If desired, the truck could be permanently fixed to the stand but it has been found desirable to have this truck free to permit it to be removed so that one truck may perform the raising and lowering of all the sections of the stand.

The use of the rod 31 rather than the resting of the channels directly on the truck body has been found to be advantageous as the rod supports the stand entirely across the section and permits a free rolling action in the opening and closing process.

The applicant is aware that a large number of variations in the construction and method of operation of his device might be made by any one skilled in the art and he does not limit his invention to the particular embodiment herein shown and described.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a device of the class described, the combination of a grandstand comprising upper and lower members hinged together and having the upper extremity of the upper member hinged to an upright; and means for folding said stand comprising a support placed beneath the stand adjacent to the point of balance and adapted to be maintained in this relative position during the folding of the stand.

2. In a device of the class described, the combination of a grandstand comprising upper and lower members hinged together, the upper member being secured at its upper extremity by a hinge to an upright and the lower extremity of the lower member being adapted to rest on a horizontal surface; means for folding said stand comprising a support placed transversely beneath the stand adjacent to the line of balance; and means whereby said support is maintained in this relative position during the folding of the stand.

3. In a device of the class described, the combination of a folding grandstand comprising upper and lower members hinged together, the upper member being secured at its upper extremity by a hinge to an upright and the lower extremity of the lower member being adapted to rest on a horizontal surface; means for folding said stand comprising a support placed transversely beneath the stand adjacent to the line of balance to act as a fulcrum upon which said stand shall swing; and means whereby said support is maintained in this relative position during the folding of the stand.

4. In a device of the class described, the combination of a folding grandstand comprising upper and lower members hinged together, the upper member being secured at its upper extremity by a hinge to an upright, and the lower extremity of the lower member being adapted to rest on a horizontal surface; means for folding said stand comprising a support mounted upon rollers and placed transversely beneath the stand adjacent to the line of balance; and sockets in the under side of said stand to receive the support and permit the stand to swing thereon.

5. In a device of the class described, the combination of a folding grandstand comprising upper and lower members hinged together, the upper member being secured at its upper extremity by a hinge to an upright, and the lower extremity of the lower member being adapted to rest on a horizontal surface; means for maintaining said stand in an extended position; means for folding said stand comprising means for removing said maintaining means, a support mounted upon rollers and placed transversely beneath the stand adjacent to the line of balance of said stand; and sockets in the under side of said stand to receive the support and permit the stand to swing thereon.

6. In a device of the class described the combination of a grand stand comprising upper and lower members hinged together, the upper member being secured at its upper extremity by a hinge to the upright and the lower extremity of the lower member being adapted to rest on a horizontal surface; means for moving said stand from its folded into its extended position comprising a support placed transversely beneath the stand adjacent to the line of balance; and means whereby said support is maintained in this relative position during the unfolding of the stand.

In testimony whereof I affix my signature, in the presence of two witnesses.

MARSHALL PAQUETTE.

Witnesses:

HARTLEY W. BARTLETT,

AMY G. MACDONALD.