This invention relates to what is commonly known as a step jack, that is, a device for holding riser boards in place while pouring concrete steps and stairs.

The principal object of the invention is to provide a device of this character which can be quickly and easily adjusted to accommodate steps of any desired height of riser and width of tread.

Another object of the invention is to provide a simplified construction in which a single clamp screw will maintain the jack in position upon a supporting stringer and secure the riser board thereto.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a side elevation of a supporting stringer illustrating the successive steps of placing and using the invention thereon.

Fig. 2 is a perspective view illustrating the improved jack in use.

Fig. 3 is a vertical section taken on the line 3—3, Fig. 2.

Fig. 4 is a horizontal section through the jack taken on the line 4—4, Fig. 3.

The jack is designed for use with a timber stringer such as illustrated at 22 and wooden riser boards 25.

The improved jack comprises a channel iron leg member 10 which terminates at its lower extremity in a forwardly projecting foot 11. The forward extremity of the foot 11 is provided with upwardly turned flanges 28 for engaging and holding a riser board 25. A slide member 19 is slidably mounted upon the leg 10. At one side of the slide member 19, ears 21 project to engage the upper edge of a riser board 25. A jack screw 13 is provided with a head 26 to prevent its withdrawal through the ear 14 and is threaded through a bushing 15 in a clamp block 16. Thus, the ear 14 constantly maintains the clamp block 16 alongside of the slide member 12.

At each side of the bushing 15 in the clamp block 16 vertical channels are formed, in each of which a clamp hook 17 is slidably carried. One of the clamp hooks 17 extends out of the upper end of the clamp block 16 and passes through a slidable guide 18 upon the leg 10 which acts to maintain the clamp block upright on the leg 10. The other clamp hook 17 projects from the bottom extremity of the clamp block 16. The extremities of both clamp hooks 17 are provided with inwardly turned points 19. Each of the hooks 17 is provided with a projection 31 which travels in a groove 32 in the clamp block 16 and limits the movement of the hooks 17 and prevents their withdrawal from the block 16. A pin 20 is passed through the leg 10 at its upper extremities to prevent the slides 12 and 18 from passing off the upper extremity of the leg.

In using the invention the mechanic selects a stringer preferably a two by four timber, such as illustrated at 22. He then places his square upon the stringer 22 as illustrated at 23, so that the rise of the desired steps is laid off on one leg of the square and the tread of the desired steps is laid off on the other leg thereof. With the square in this position he draws parallel diagonal lines along the stringer such as indicated at 24, spaced apart the width of the desired tread. A series of riser boards 25 are now prepared, each having a width equal to the rise of the desired stairs.

The step jacks are now placed on the stringer 22 so that the forward edge of each leg 10 lies along one of the lines 24. A riser board is placed on the foot 11 and the leg 10 drawn upwardly to firmly clamp the riser board against the ears 21. The clamp hooks 17 are forced downwardly and upwardly respectively, to engage the upper and lower edges of the stringers 22 and the jack screw 13 is tightened. In tightening, the jack
screw 13 will draw the clamp block 16 away from the slide member 12 causing the clamp block 16 and the pointed extremity 19 of the clamp hook 17 to firmly engage the stringer 22. The extremity 26 of the clamp screw 13 will be forced against the leg 10 so as to firmly lock it in the slide member 12.

It will be noted that the tightening of the jack screw 13 served to lock all of the component parts of the jack and to lock the jack itself to both the stringer 22 and the riser board 23. Sufficient jacks are employed to maintain a riser board for each of the desired steps. For the usual width of step two of the stringers 22 will be sufficient with a jack at each extremity of each riser board. For wider steps an additional stringer may be placed to support the mid-portion of the riser boards.

If it is desired to hold the riser boards more firmly in position a nail may be driven into their upper edges through openings 27 provided for that purpose in the ears 21. The sides of the slide member 12 which engage the stringer 22 are provided with teeth 29 which force into the stringer to prevent the slide members from turning thereon.

When the riser boards are in place the concrete is filled in between them up to their upper edges to form the treads as indicated at 30, Fig. 1.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. A step jack comprising: a leg; a foot adjacent the lower extremity of said leg arranged to support a riser board; a slide member on said leg; means for engaging said riser board; means for attaching said jack to a supporting member, said means comprising: a jack screw projecting from said slide member; a clamp block threaded on said jack screw; clamp arms extending from said clamp block and arranged to engage said supporting member; a slidable guide mounted on said leg, one of said clamp hooks passing through said slidable guide so as to maintain said clamp block upright thereon.

2. A step jack comprising: a slide member; an ear projecting from said slide member and arranged to engage the upper edge of a riser board; a leg slidably mounted in said slide; a foot on the lower extremity of said leg arranged to engage the lower edge of said riser board; clamp arms; and means for causing said clamp arms to draw said slide against a supporting member, said means comprising: a clamp block in which said clamp hooks are maintained and a jack-screw arranged to force said clamp block away from said slide so as to cause said hooks to draw said slide against said supporting member.

3. A step jack comprising: a slide member; an ear projecting from said slide member and arranged to engage the upper edge of a riser board; a leg slidably mounted in said slide; a foot on the lower extremity of said leg arranged to engage the lower edge of said riser board; clamp arms; and means for causing said clamp arms to draw said slide against a supporting member, said means comprising: a clamp block in which said clamp hooks are maintained and a jack-screw arranged to force said clamp block away from said slide so as to cause said hooks to draw said slide against said supporting member.

4. A step jack comprising: a slide member; an ear projecting from said slide member and arranged to engage the upper edge of a riser board; a leg slidably mounted in said slide; a foot on the lower extremity of said leg arranged to engage the lower edge of said riser board; clamp arms; and means for causing said clamp arms to draw said slide against a supporting member, said means comprising: a clamp block in which said clamp hooks are maintained and a jack-screw arranged to force said clamp block away from said slide so as to cause said hooks to draw said slide against said supporting member.

5. A step jack comprising: a slide member; an ear projecting from said slide member and arranged to engage the upper edge of a riser board; a leg slidably mounted in said slide; a foot on the lower extremity of said leg arranged to engage the lower edge of said riser board; clamp arms; and means for causing said clamp arms to draw said slide against a supporting member, said means comprising: a clamp block in which said clamp hooks are maintained and a jack-screw arranged to force said clamp block away from said slide so as to cause said hooks to draw said slide against said supporting member.

6. A step jack to be used in combination with a riser board comprising: a slide member arranged to engage one face of said riser board and one edge of said riser board; a leg slidably mounted in said slide member; a foot on said leg arranged to engage the other edge of said riser board; clamp hooks arranged to engage the opposite face of said riser board and said slide member against said riser board.

7. A step jack to be used in combination with a riser board comprising: a slide member arranged to engage one face of said riser board and
one edge of said riser board; a leg slidably mounted in said slide member; a foot on said leg arranged to engage the other edge of said riser board; clamp hooks arranged to engage the opposite face of said stringer member; means for forcing said clamp hooks and said slide member against said stringer member, said means comprising: a clamp block; a jack screw supporting said clamp block from said slide; said clamp hooks being mounted in said clamp block so that rotation of said jack screw will cause said hooks to clamp said stringer.

In testimony whereof, we affix our signatures.

JESSE SOULE.
REINHOLD TIEFA.
EDWARD WALSH.