Dec. 9, 1958 H. W. DAVIS ET AL 2,863,207

DEVICE FOR FORMING RISERS FOR CONCRETE STEPS

Filed May 31, 1955

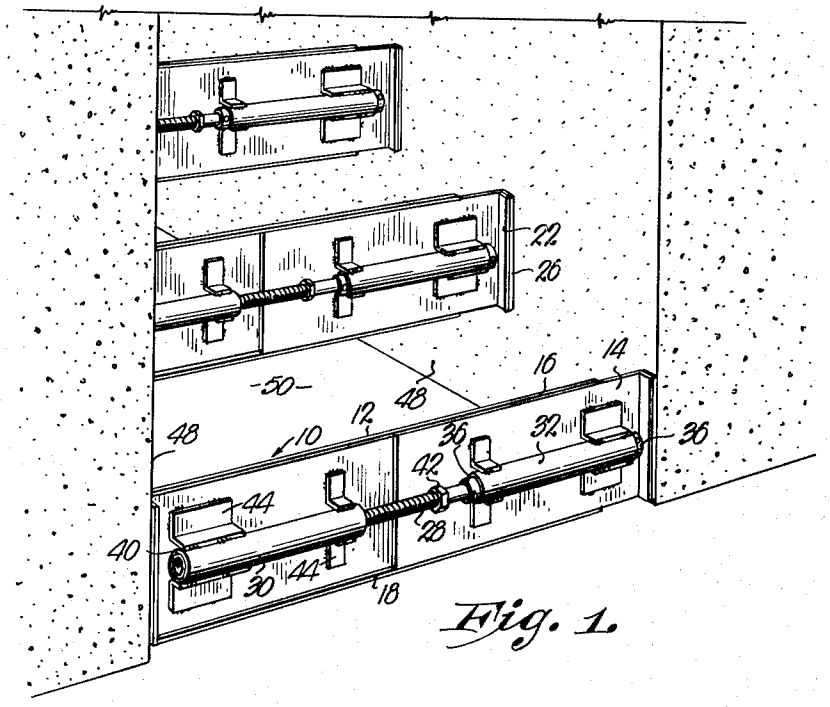


Fig. 1.

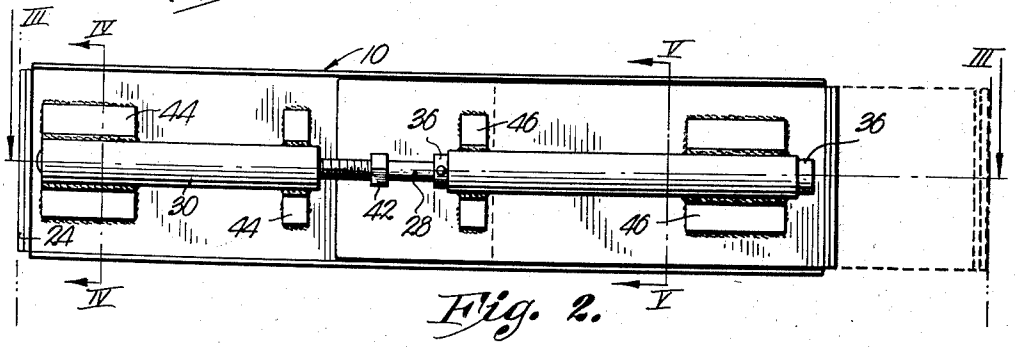


Fig. 2.

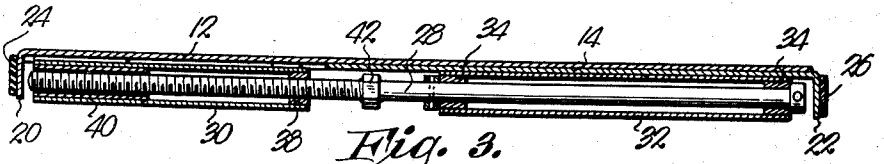


Fig. 3.

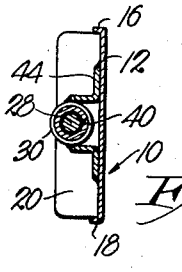


Fig. 4.

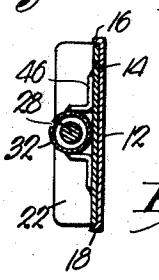


Fig. 5

INVENTORS.
Harold W. Davis
Orville H. Moritz
BY
BY
ATTORNEY.

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DEVICE FOR FORMING RISERS FOR CONCRETE STEPS

Harold W. Davis, Hickman Mills, and Orville H. Moritz, Liberty, Mo.

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1 Claim. (Cl. 25—118)

This invention relates to building and construction and particularly to improvements in equipment utilized in the formation of concrete steps, especially those poured between a pair of spaced vertical walls, as for example, in the basement of a building, the primary object being to provide a device or form that may be quickly and easily clamped into place between the walls to form the risers of the steps.

It is the most important object of the instant invention to provide a device of the aforementioned character that includes an elongated panel having slidably interconnected sections for rendering the panel extensible, whereby through use of structure interconnecting the sections or sheets, the ends of the panel may be clamped tightly in place and the device quickly and easily removed after the concrete is set.

Other objects include the way in which the ends of the extensible panel are provided with resilient bumpers that bear against the vertical walls to compensate for unevenness and thereby assure a tight fit; the way in which a bolt and a nut are secured to the two sheets in a novel manner to reciprocate the same relatively; and many more minor objects to be made clear as the following specification progresses.

In the drawing:

Figure 1 is a perspective view showing a plurality of devices for forming risers for concrete steps made pursuant to the present invention and operably mounted between a pair of vertical walls.

Fig. 2 is an enlarged, elevational view thereof.

Fig. 3 is a longitudinal, cross-sectional view taken on line III—III of Fig. 2.

Fig. 4 is a transverse, cross-sectional view taken on line IV—IV of Fig. 2; and

Fig. 5 is a cross-sectional view taken on line V—V of Fig. 2.

The devices illustrated in Fig. 1 of the drawing are identical and each include an elongated panel broadly designated by the numeral **10** and consisting of a pair of sections or rectangular sheets **12** and **14** in face-to-face, slidable interengagement. The sheet **12** is provided with lateral longitudinal flanges **16** and **18** overlapping the longitudinal edges of the sheet **14** as best seen in Fig. 5 of the drawing.

The outermost ends of the sheets **12** and **14** are provided with lateral extensions **20** and **22** respectively and resilient bumpers or pads **24** and **26** made from rubber or the like, are affixed to the extensions **20** and **22** respectively.

The two sections **12** and **14** are interconnected for relative movement by an elongated bolt **28** rotatable within aligned tubes **30** and **32**, the tube **32** having spaced bearings **34** rigidly secured therewithin for receiving the bolt **28**. Heads **36** on the bolt **28** restrain the latter against longitudinal movement with respect to the tube **32**. A nut **38** fixed to the tube **30** therewithin, meshes with the bolt **28** and a guide **40** is also provided for the bolt **28** within the tube **30**. Wrench-receiving flats **42** are provided on the bolt **28** between the tubes **30** and **32**.

Brackets **44** welded or otherwise affixed to the tube **30** and the section **12** mount the tube **30** upon the section **12** and the tube **32** is similarly attached to the section **14** by use of brackets **46**.

The devices are placed in use in the manner illustrated in Fig. 1 of the drawing spanning the distance between a pair of vertical walls **48** such as those normally provided to present a well **50** for receiving concrete steps. It is to be noted that upon rotation of the bolts **28** in one direction through use of the flats **42** thereon, the ends of the extensible panel **10** are brought into tight engagement with the walls **48**.

By virtue of the fact that the pads **24** and **26** bear tightly against the walls **48**, they compensate for unevenness and the panel **10** is capable of withstanding the forces of the concrete poured between the walls **48** to form the steps. After the concrete is set, the bolts **28** may be rotated in the opposite direction and the panels **10** quickly and easily removed, thereby presenting the risers for the steps.

Through use of devices of the kind hereinabove set forth, the necessity for providing bulky framework, supports and bracing, is eliminated, the danger of giving way under the force of the concrete is prevented, and the forms may be quickly and easily removed, all without mutilating the steps themselves or leaving holes, jagged edges and other defects which would otherwise have to be filled in or repaired to present a smooth finish.

It can also be appreciated that, through use of the devices **10** to form the risers of the steps, the workmen can easily work in and around the panels **10** while the same are in place between the walls **48** with trowels to smooth the concrete and finish the steps themselves so that after the panels **10** are removed, very little additional work is necessary to complete the job.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

A device for forming risers for concrete steps poured between a pair of spaced vertical walls, said device comprising a pair of relatively thin, substantially identical, rectangular planar sheets in face-to-face, slidable interengagement, each of the sheets being provided with a lateral extension on its outermost end and extending throughout the length of said end to thereby present normally vertical, outwardly facing, rectangular surfaces disposed perpendicularly to said sheets; a rectangular, resilient pad secured to each of said surfaces respectively and coextensive in length therewith in substantially covering relationship to the same; an elongated tube secured longitudinally on each sheet respectively and disposed on a common longitudinal line substantially intermediate the longitudinal edges of the sheets; a bolt rotatable in the tubes; a nut secured to one of the tubes therewithin in mesh with the bolt; spaced bearings within the other tube for rotatably supporting the bolt; outwardly extending heads secured to the bolt and disposed for holding the bolt against longitudinal movement in said other tube; and wrench-receiving flats on the bolt and disposed intermediate the tubes whereby, when the bolt is rotated by a wrench in one direction the sheets may be extended into the resilient pads to tightly clamp the device between said walls.

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