J. D. SMOCK.

MOLD FOR CONCRETE STEPS.

APPLICATION FILED JAN. 18, 1910.

1,012,735.

Patented Dec. 26, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

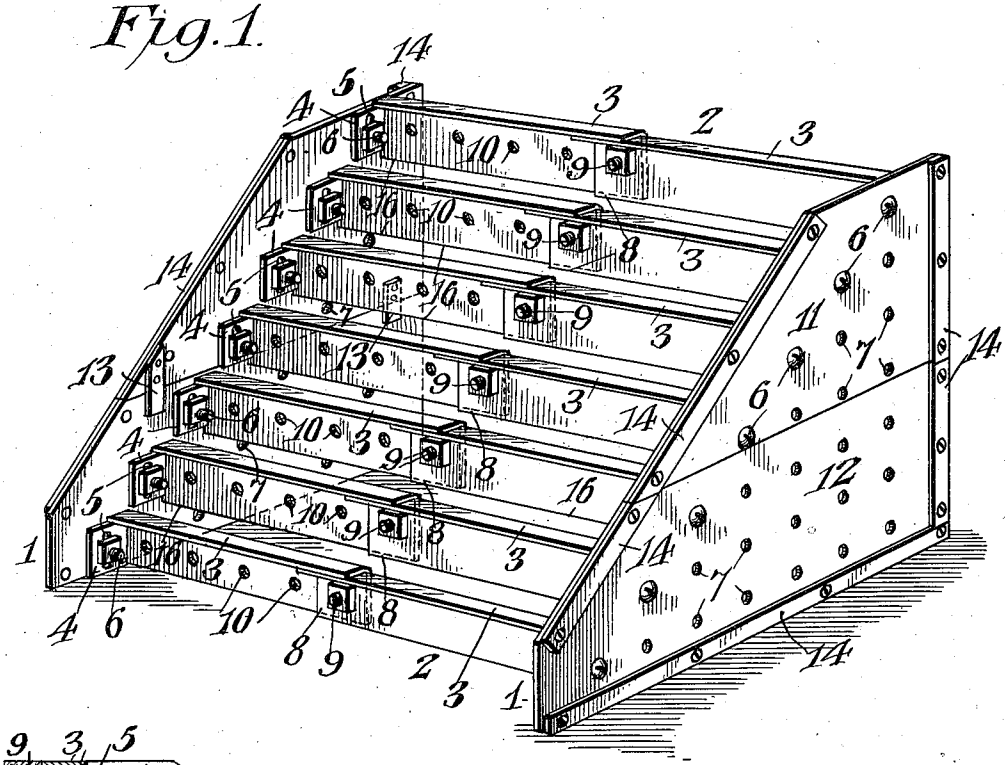
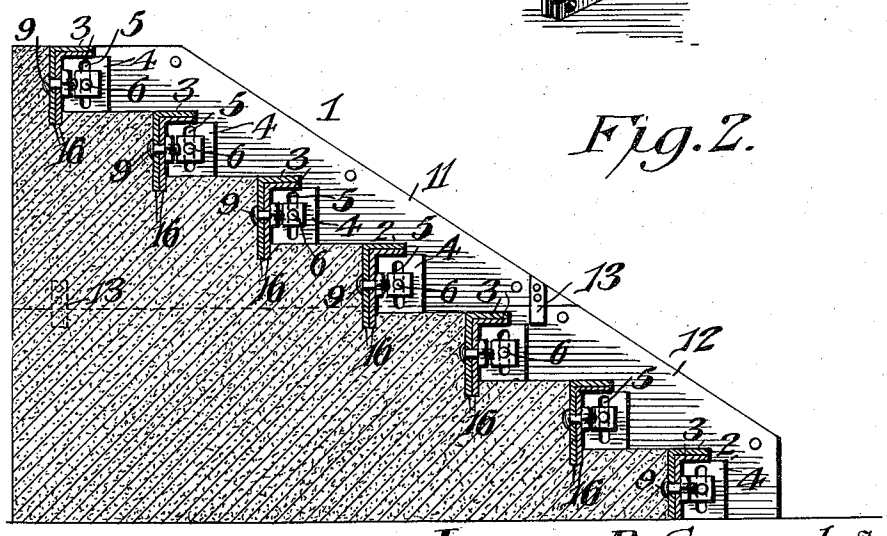


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

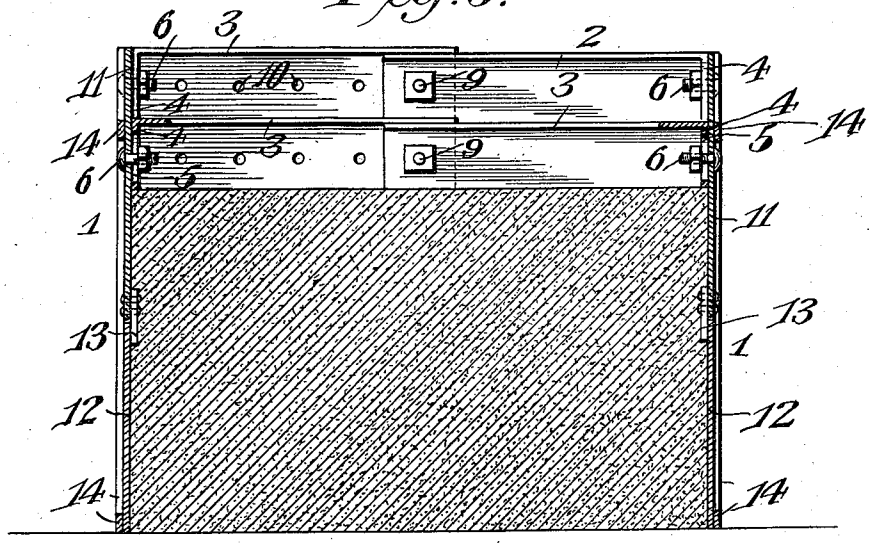
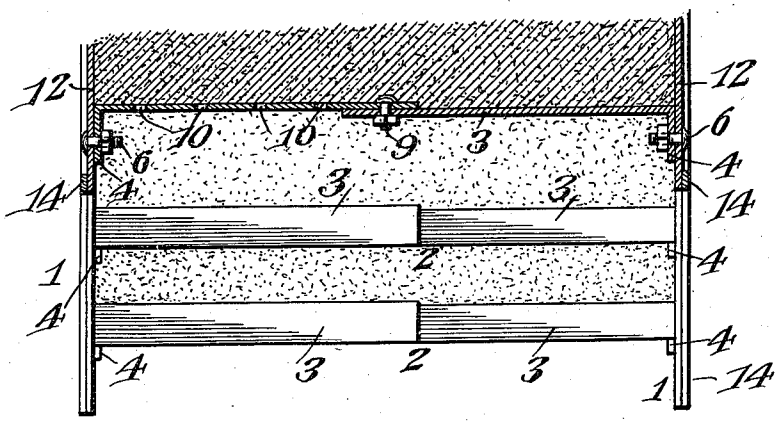


Fig. 4.



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UNITED STATES PATENT OFFICE.

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MOLD FOR CONCRETE STEPS.

1,012,735. Specification of Letters Patent. Patented Dec. 26, 1911.

Application filed January 18, 1910. Serial No. 538,749.

To all whom it may concern:

Be it known that I, JASPER D. SMOCK, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented a new and useful Mold for Concrete Steps, of which the following is a specification.

The invention relates to a mold for concrete steps.

The object of the present invention is to provide a simple and comparatively inexpensive mold, designed for making steps of concrete or other plastic material, adapted to be readily set up in position for use, and capable of adjustment to vary the size and number of steps.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a perspective view of a mold, constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same, the mold being filled in with concrete. Fig. 3 is a transverse sectional view. Fig. 4 is a horizontal sectional view.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

The mold or form for making step formations in a solid concrete foundation is preferably constructed of sheet metal, but any other suitable material may be employed in its construction, as will be readily understood. It comprises vertical parallel sides 1 and an inclined series of transversely disposed connecting riser members 2, each consisting of a vertical body portion and a horizontal top flange 3, extending outwardly from the riser members and adapted to strengthen and reinforce the mold. The side faces of the riser members are arranged in vertical planes, and each succeeding riser member in the inclined series is arranged above and in rear of the preceding riser member, as clearly shown in Fig. 1 of the drawings. The ends of the riser members 2 are provided with attaching flanges 4, extending forwardly or outwardly at right angles to the riser members and provided with vertical slots 5, receiving bolts 6 and adapted to permit the riser members to be raised and lowered to vary the height of the steps. The sides of the mold are provided with rows of perforations 7, arranged to receive the bolts 6 and adapted to permit the riser members to be adjusted inwardly and outwardly to vary the width of the steps. The riser members are also composed of two sections having inner overlapped ends 8, connected by bolts 9. One of the sections is provided at intervals with perforations 10, adapted to receive the bolts 9, whereby the sections of the riser members may be overlapped to a greater or less extent to vary the distance between the sides of the mold and the consequent length of the steps. The horizontal top flanges of the sections of the riser members are also overlapped, the angle of one section fitting in the angle of the other, as shown.

The mold may be constructed of any desired size to hold a flight or set of steps of any desired number, and the sides are divided horizontally at a point intermediate of the top and bottom of the mold to form upper and lower separable sections 11 and 12. In the embodiment of the invention illustrated in the drawings, the upper sections of the sides are connected by four riser members and coöperate with the same form a mold section, adapted to mold four steps of concrete or other plastic material, and only the upper section of the mold is used when four or a less number of steps are required. When, however, it is desired to mold a flight or set of steps containing five or more steps, both sections of the mold are employed, and the upper section is retained in position on the lower section by means of projecting plates or pieces 13, secured to the inner faces of the upper sections 11 of the sides, and projecting below the lower edges thereof and fitting against the inner faces of the lower sections of the sides of the mold, as clearly illustrated in Fig. 1 of the drawings. The projecting plates 13 are arranged in pairs, and are located at the front and rear portions of the mold, but any other desired number may be employed and various other means may be used for securing the upper section of the mold upon the lower section, when

both sections are to be used. The sides 1 are preferably reinforced by marginal strips 14, secured to the outer faces of the sides and arranged at the edges thereof, as clearly illustrated in Fig. 1, but the sides of the mold may be reinforced or strengthened in any other manner.

The mold is designed to be secured in position adjacent to a wall or porch by stakes driven into the ground. It is adjustable, and may be set up in position to mold steps of the desired size and number, in a much less time than would be required to build a mold of lumber, and it obviates the necessity of building a separate mold for each set or flight of steps molded. The concrete or other plastic material is filled in the mold beginning at the bottom step and the material is struck off with a straight edge at the top of each step. The lower edge 16 of each riser member extends downwardly below the plane of the top of the next lower preceding riser member and projects into the plastic material preferably about an inch and a half, and thereby operates to hold the plastic material at one step in place, while the material is being filled in at the next step. When the inner flight or set of steps has been molded, the top riser member is removed and the top step is finished. This operation is continued until all the steps have been finished, and all the riser members removed. The space below the riser members between the side plates is open at the bottom and the back to permit the mold to be removed without disturbing the cement foundation or body of cement in which the step like formations are made. The set of steps is then in a rough condition, and requires finishing in fine cement. Owing to the adjustability of the mold and the detachability of the parts thereof, steps may be rapidly and cheaply molded of plastic material.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A mold for forming concrete steps and the foundation consisting of side plates having horizontal lower edges to rest upon the supporting surface and provided with vertical rear edges, a series of riser members composed of sections having their inner ends adjustably overlapped and secured together and provided at their outer ends with forwardly extending attaching flanges located at the inner faces of the side plates and having slots arranged to permit a vertical adjustment of the riser members, the latter having their lower edges projecting below the upper edges of the next adjacent riser member so as to be embedded in the concrete, and fastening devices operating in the said slots and securing the riser members in their vertical adjustment.

2. A mold for forming concrete steps and the foundation consisting of side plates having horizontal lower edges to rest upon the supporting surface and provided with vertical rear edges, and a plurality of riser members composed of adjustable overlapped sections provided at their upper edges with overlapping longitudinal flanges and having attaching flanges at their outer ends, means for adjustably securing the attaching flanges to the inner faces of the side plates, a single fastening device connecting the inner ends of each of the sections of the riser members, said riser members being successively arranged in rear of one another and at different elevations and spaced apart, and the spaces below the riser members and between the side plates being open to permit the removal of the mold.

3. A mold for forming concrete steps and the foundation consisting of side plates divided horizontally to form upper and lower sections and having horizontal lower edges to rest upon the supporting surface and provided with vertical rear edges, a plurality of riser members adjustably secured at their ends to and detachably connecting the side plates and composed of adjustable sections successively arranged in rear of one another and spaced equi-distantly from each other, said riser members having edges projecting below the upper edges of the next adjacent riser member for retaining the concrete in place between the riser members while the succeeding step is being filled in, the space between the side plates in rear of and below the riser members being open to permit the removal of the mold.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JASPER D. SMOCK.

Witnesses:

BENJAMIN EVINGER,

J. THOS. BRASSIE.