G. MILLER.

CONCRETE WALL MOLD.

APPLICATION FILED JAN. 2, 1913.

1,090,488.

Patented Mar. 17, 1914.

2 SHEETS—SHEET 1.

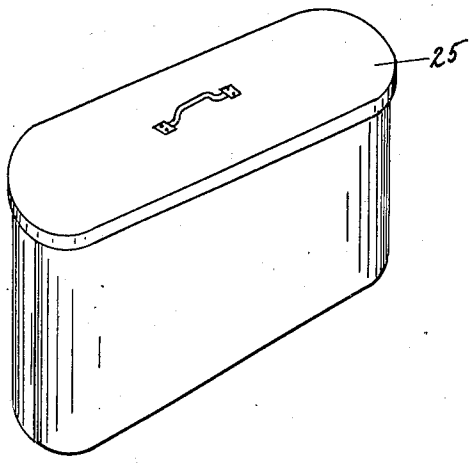


Fig. 1

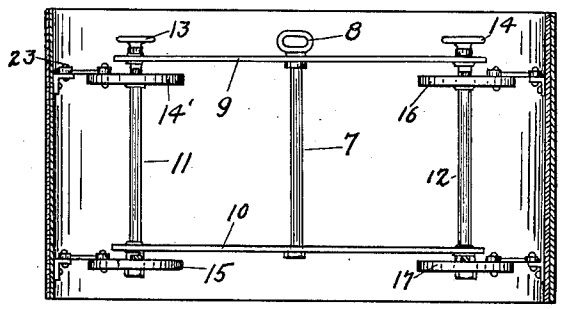


Fig. 2

Fig. 3

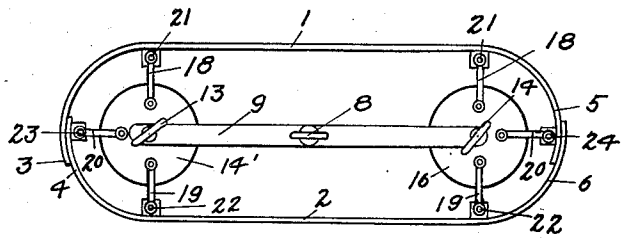
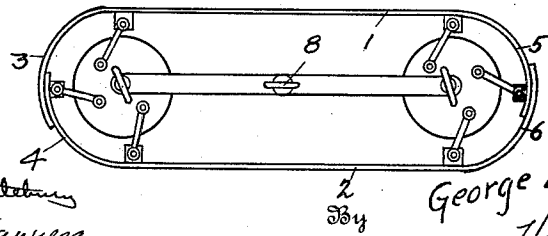


Fig. 4



Witnesses

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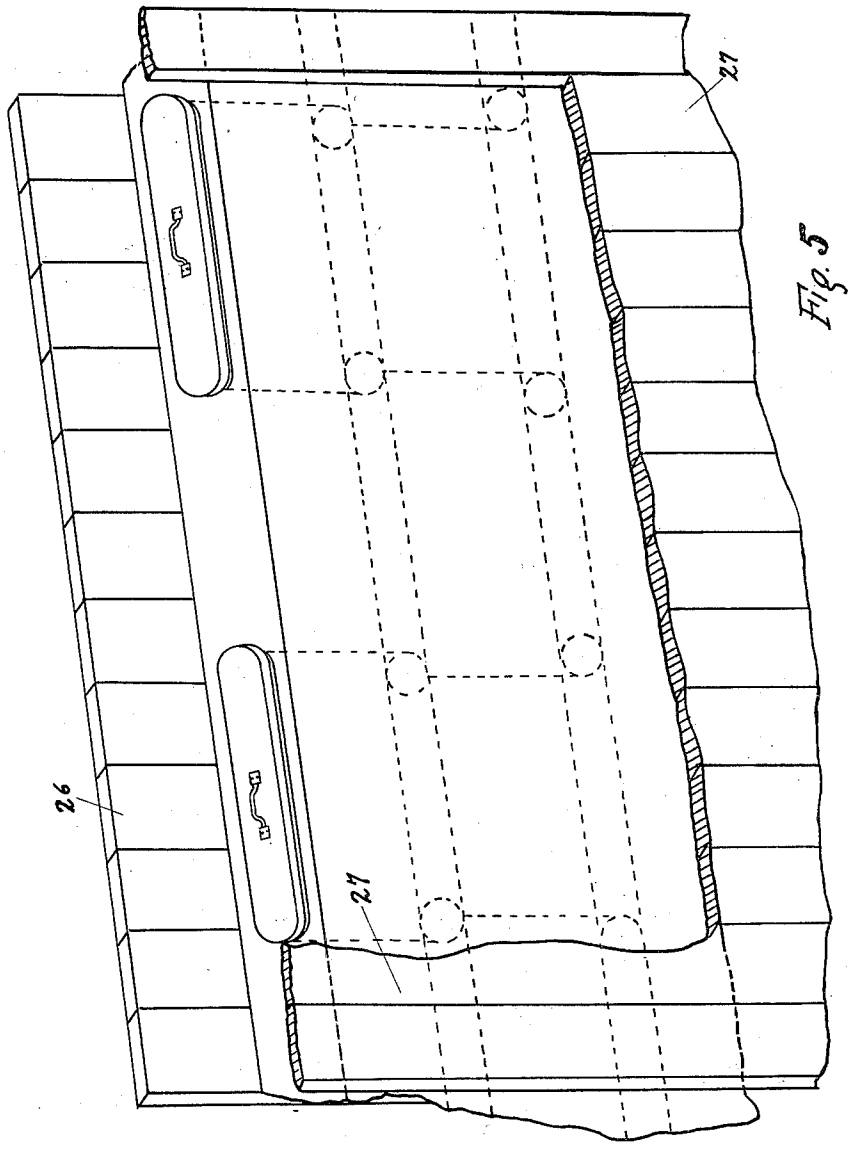


Fig. 5

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UNITED STATES PATENT OFFICE.

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CONCRETE-WALL MOLD.

1,090,488. Specification of Letters Patent. Patented Mar. 17, 1914.

Application filed January 2, 1913. Serial No. 739,583.

To all whom it may concern:

Be it known that I, GEORGE MILLER, a citizen of the United States, residing at Fairfield, in the county of Spokane and State of Washington, have invented new and useful Improvements in Concrete-Wall Molds, of which the following is a specification.

This invention relates to improvements in inner forms whereby inner interior spaces may be formed in concrete or like walls or whereby any interior hollow cavity may be formed in a body constructed of an initially plastic material adapted to set or harden in a mold.

In the most improved embodiment of my invention the same is utilized for forming spaces in a concrete wall where the latter is formed of superposed sections in successive order.

Among the several novel features which my invention embodies are, first, the collapsibility of the mold to permit withdrawal, the rigidity of the mold when locked in place, and the general simplification of the structure as herein embodied.

Other novel features of my invention will be more fully described in connection with the accompanying drawings, and will be more particularly pointed out in and by the appended claim.

In the drawings: Figure 1 is a perspective view of the interior form embodying one construction of my invention. Fig. 2 is a vertical sectional view thereof. Fig. 3 is a plan view of the structure in a locked or expanded position which it will assume when in operation. Fig. 4 is a similar view showing the form collapsed. Fig. 5 is a perspective view illustrating a concrete or like wall built between vertical forms and showing the application of the device of my invention thereto.

Like characters of reference designate similar parts throughout the different figures of the drawings.

As illustrated, my invention takes the form of an oblong hollow body formed of sections 1 and 2. The sides of sections 1 and 2 are flat and the sections are preferably formed of sheet metal. The ends of sections 1 and 2 are preferably rounded and extend in overlapping relation with respect to each other. One end 3, of section 1, extends in overlapping and in outside relation with respect to end 4, of section 2. The other end of section 1, indicated at 5, extends inside of and in underlapping relation with respect to end 6, of section 2. The height of the sections may correspond with the height of a wall or like structure to be built. The outermost ends 3 and 6, of the sections 1 and 2, respectively, are formed with resiliency so that they will follow the ends 4 and 5 when the latter are drawn inwardly, as will hereinafter more fully appear, and therefore it will naturally follow that when the ends 4 and 5 are forced endwise or outwardly they will always lie in abutting relation with the ends 3 and 6 so as to form a closed surface as indicated at the opposite ends of Fig. 3. Mechanism is provided for collapsing and expanding the sections, preferably both laterally and endwise of the form, and as herein shown such mechanism comprises the frame structure which holds sections 1 and 2 in relative position with respect to each other.

As illustrated, a supporting rod 7 extends upwardly vertically in the form and is provided with a handle 8 whereby the form may be lifted or otherwise manually transported as desired. Horizontal bars 9 and 10 are secured to the central rod 7 and project endwise thereof and form bearings for locking shafts 11 and 12. The locking shafts 11 and 12 have handles 13 and 14, respectively, whereby the shafts 11 and 12 may be oscillated for a purpose which will now be described. The shafts 11 and 12 carry disks 14′, 15, and 16 and 17, respectively, which are disposed near the ends of the shafts 11 and 12. Each disk is connected with both sections 1 and 2 and with one end of each section by links 18, 19 and 20. The links 18 are connected, preferably pivotally as at 21, with the sides of section 1. Links 19 are pivotally connected at 22 with side sections 2. Links 20 of the disks 14′ and 15 are pivotally connected at 23 with the end 4 of section 2, the end 3 of section 1 being free. Links 20 of the disks 16 and 17 are pivotally connected at 24 with end 5 of section 1, end 6 of section 2 being free.

It will be readily seen from the foregoing that when the handles 13 and 14 are turned to the right, as in Fig. 3, the pivotal centers of the links will be in alinement with the shafts 11 and 12, on dead centers, and this will serve to lock the sections 1 and 2 in an expanded position with the ends in

close overlapping relation to form a continuously closed outer surface. A cover 25 may be disposed on the interior form, when in such position, and when placed in the wall as shown in Fig. 5. The interior form is set in this position and the concrete or like plastic material is disposed about the form and between the walls 26 and 27, as illustrated. When the interior form is to be removed from the concrete or like structure the cover 25 is removed and the handles 13 and 14 are turned to the left, as shown in Fig. 4, thereby drawing the flat sides of sections 1 and 2 inwardly and likewise drawing the alternate ends of sections 1 and 2 inwardly. The free ends 3 and 6 will follow inwardly sufficiently to become disengaged from the material formed about the device. After the device has been collapsed then the operator grasps the handle 8 to lift the device out of the wall.

While I have herein shown and described one specific form of my invention, I do not wish to be limited thereto except for such limitations as the claim may import.

I claim:—

An internal form for concrete or like construction comprising in combination, a pair of sheet like sections having overlapping ends, one end of one section extending inwardly with respect to the end of the other section adjacent thereto and the remaining end of said first named section extending outwardly with respect to the adjacent end of its companion section, the outermost free ends of alternate sections being tensioned to spring against the innermost or underlying ends, pairs of rotatable disks adjacent the ends of said sections and disposed inwardly with respect thereto, links pivoted to said disks and connected with the innermost ends of alternate sections and with the sides of each section and adapted for rotation to bring the pivotal centers of said links on a dead lock center with the axes of rotation of said disks to lock said sections in expanded positions, substantially as described.

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

GEORGE MILLER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."