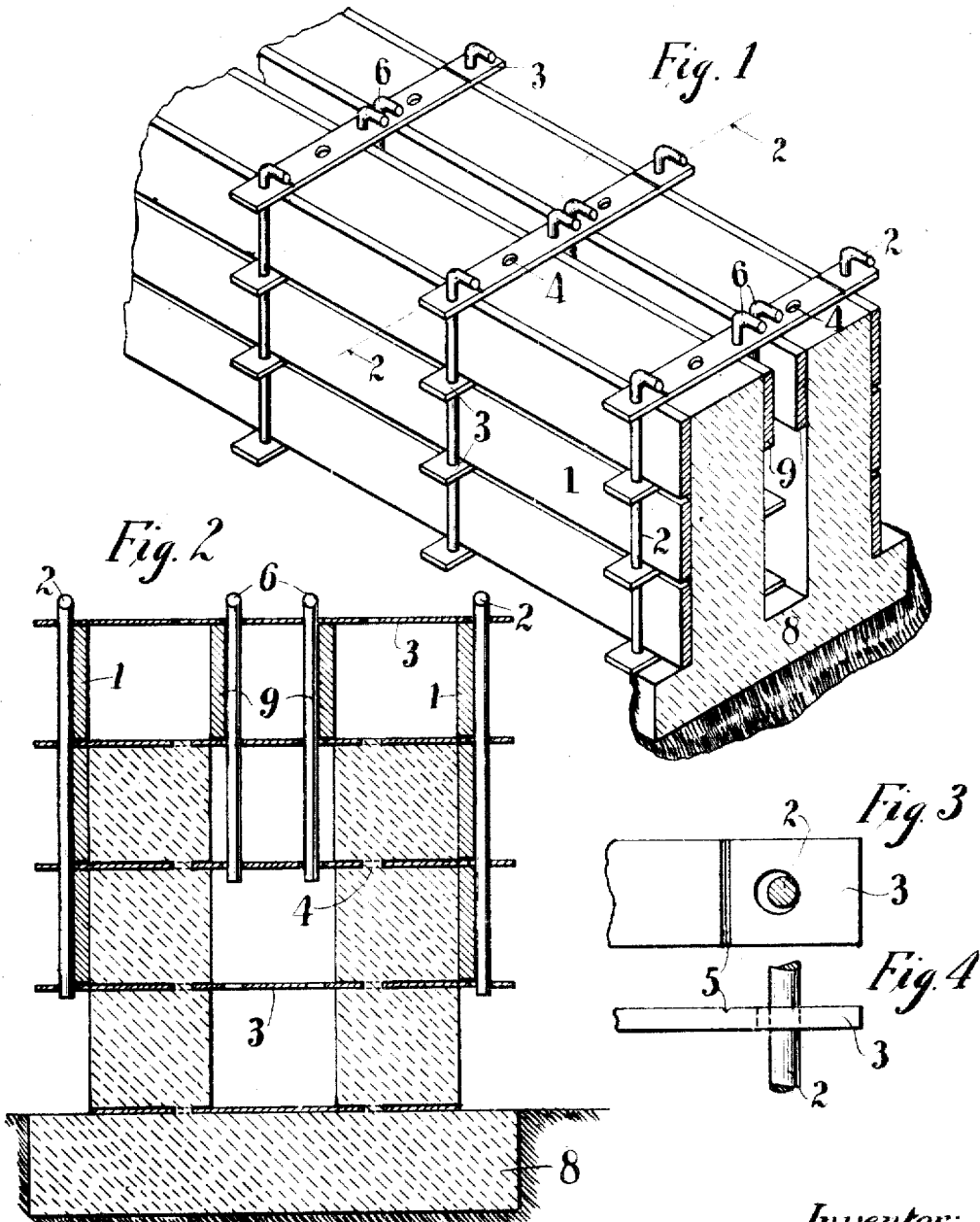


J. MUELLER.
MOLD CONSTRUCTION FOR CONCRETE WALLS.
APPLICATION FILED JUNE 25, 1908.

936,798.

Patented Oct. 12, 1909.



Witnesses:

Edwin Phelps
Mary M. Hillman

Inventor:

John Mueller
By *Rummler & Rummler*
Attorneys

UNITED STATES PATENT OFFICE.

JOHN MUELLER, OF ELMHURST, ILLINOIS.

MOLD CONSTRUCTION FOR CONCRETE WALLS.

936,798.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed June 25, 1908. Serial No. 440,315.

To all whom it may concern:

Be it known that I, JOHN MUELLER, a citizen of the United States of America, and a resident of Elmhurst, county of Dupage, State of Illinois, have invented certain new and useful Improvements in Mold Constructions for Concrete Walls, of which the following is a specification.

The main objects of this invention are to provide an improved construction for molds suitable for use in the erection of concrete walls and the like, which is simple, efficient and economical, and in which the lumber which is to be afterward used in the building may be utilized as mold material without being cut or otherwise damaged, and to provide a construction wherein the mold will require few parts and permit of successively advancing these as the work progresses, and wherein the necessary equipment shall consist of parts which are of simple and inexpensive construction and of such size and shape as to be durable and not likely to become lost. These objects are accomplished by the construction shown in the accompanying drawing, in which—

Figure 1 is a sectional perspective view of a double concrete wall in the process of construction, the mold being constructed according to this invention. Fig. 2 is a transverse section of the same on the line 2—2 of Fig. 1, showing the mold advanced preparatory to building an additional section upon the wall. Fig. 3 is a partial plan view of one of the cross bars, showing the relative position of the rod and the enlarged perforation, and also showing the scoring of the bar for breaking off the projecting end when the wall is completed. Fig. 4 is a side view of the same.

In the construction shown in the drawing, the mold sections or forms 1 are retained in a substantially vertical position by vertically disposed frame members preferably in the form of round rods 2 which extend downwardly through the perforations in the cross bars or binders 3. The rods 2 are bent at the upper end toward one side, so as to provide heads by which the rods may be pulled or driven upward. The perforations in the bars 3 are made larger in diameter than the rods 2, as shown in the Figs. 3 and 4, in order that the bars 3 may be easily passed down over the bent upper ends of the rods 2 without necessitating the removal of same.

In single wall construction the bars 3 are plain and can be removed from the wall, if

desired, before the concrete has fully hardened. In double wall construction the bars 3 have perforations intermediate of the ends into which the concrete enters and holds the bars 3 firmly in the mold, adapting them to serve as binders between the two walls. The bars 3 are also scored at 5 at the outer faces of the walls to allow the projecting ends to be broken off. In double wall construction a second set of rods 6, which may be somewhat shorter than the rods 2, extend through perforations in the bars 3 and hold the inner mold sections 9 in position for gaging the space between the two walls.

The building of a wall by means of this construction is as follows:—The footing 8 of the wall is first constructed. Then a series of cross bars 3 are laid upon the footing 8, and the first rows of mold sections 1 and 9 are placed on edge on the bars 3. A second series of cross bars 3 are placed on the top edge of the mold sections directly above those in the first series. The rods 2 and 6 are then inserted into the perforations, so as to connect the cross bars and secure the mold sections against being spread apart when the concrete is filled in. The boards 1 and 9 may be temporarily held apart by transverse braces (not shown), but these are usually unnecessary after the first course is completed. The concrete is then filled in between the boards. After the first course of concrete is sufficiently set, the upper set of cross bars 3 is removed to permit the boards 9 to be taken out. Then said upper set of cross bars is replaced, and the second section of the mold is set up in the same way, the cross bars 3 being simply passed over the heads of the rods 2. The concrete for each course is filled in before the mold for the succeeding course is erected. This operation is continued until the mold has reached the tops of the rods 2. The next course of the mold is then erected by drawing the rods 2 upwardly the length of one section, removing the boards 1 of the lowest section, and placing them on the bars 3 above the boards 1 of the course just completed. The bars 3 are then passed down over the rods 2 as before, and the section is ready to be filled with concrete. The operation then continues as before, until the wall reaches the desired height, the mold being advanced with each successive course. It is preferred to merely lay the cross bars across the edges of the boards, without cutting them, as this permits

the joists or other lumber intended for the building to be used as mold material without being materially damaged. The ridges which form on the wall on account of the slight space between adjacent boards 1 may be scraped off before being thoroughly dried, and the roughness of the wall may be removed by brushing mortar over these places. In single wall construction the boards 9 and rods 6 are omitted, and the bars 8 are made without intermediate perforations 4, so that they may be pulled out of the wall before it has fully set. In double wall construction the bars 8 bind together the two walls. The scoring 5 permits the projecting ends to be broken off close to the wall. The fact that the rods 2 extend across several courses of the mold insures that the additions to the mold may be easily kept in vertical alignment with the sections below.

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

1. In a mold, the combination of a plurality of mold sections disposed one above the other, cross bars extending through the mold and projecting outward beyond said mold sections, vertically disposed members each adapted to cooperate with the projecting parts of a plurality of successive cross bars so as to hold the mold sections in position, said members being adapted to be slid upwardly while in operative relation with the upper cross bars to permit the lowest mold section to be removed and placed above for advancing the mold without disturbing the intermediate mold sections, and means on said members whereby they may be pulled upwardly.

2. In a mold, the combination of a plurality of mold sections disposed one above the other, cross bars extending through the mold and projecting outward beyond said mold sections and having perforations adjacent to the outer faces of said sections, rods extending downwardly through said perforations from one cross bar to another and adapted to hold said sections in position, the upper ends of said rods being bent toward one side to provide heads whereby said rods may be pulled upward while in engagement with said cross bars, said perforations being shaped so as to permit successive cross bars to be passed down over said heads and into position without necessitating the removal of said rods.

3. In a mold, the combination of a plu-

rality of mold sections disposed one above the other, cross bars extending through the mold and projecting outward beyond said mold sections, vertically disposed rods each adapted to cooperate with the projecting parts of a plurality of successive cross-bars so as to hold the mold sections in position, each of said rods being of substantially uniform cross section throughout its length and adapted to be slid upwardly while in operative relation with said cross bars to permit the lowest mold section to be removed and placed above for advancing the mold without disturbing intermediate mold sections, and the upper ends of said rods being bent toward one side to form heads whereby said rods may be pulled upwardly.

4. In a mold, the combination of a plurality of mold sections disposed one above the other, cross bars interposed between said mold sections and having perforations adjacent to the outer faces thereof, rods extending downwardly through said perforations from one cross bar to another and adapted to hold said mold sections in a substantially vertical position, heads at the upper ends of said rods, said perforations being shaped so as to permit successive cross bars to be passed down over said heads and into position without necessitating the removal of said rods.

5. In a mold for hollow wall construction, the combination of mold sections for forming the faces of the wall and the sides of the space therein, cross bars extending through the wall and projecting beyond the mold sections at opposite sides thereof, said cross bars being arranged one above the other and each having apertures therein adjacent to each of said mold sections, and vertically disposed rods extending through said apertures from one cross bar to another for holding said mold sections in position and adapted to be shifted upward to permit the lower mold sections to be removed and replaced above for advancing the mold, said rods and the apertures in said cross bars being shaped to permit the cross bars to be slipped on and off of the upper ends of said rods while said rods are in position in the mold.

Signed at Chicago this 22nd day of June, 1908.

JOHN MUELLER.

Witnesses:

EUGENE A. RUMMLER,
MARY M. DILLMAN.