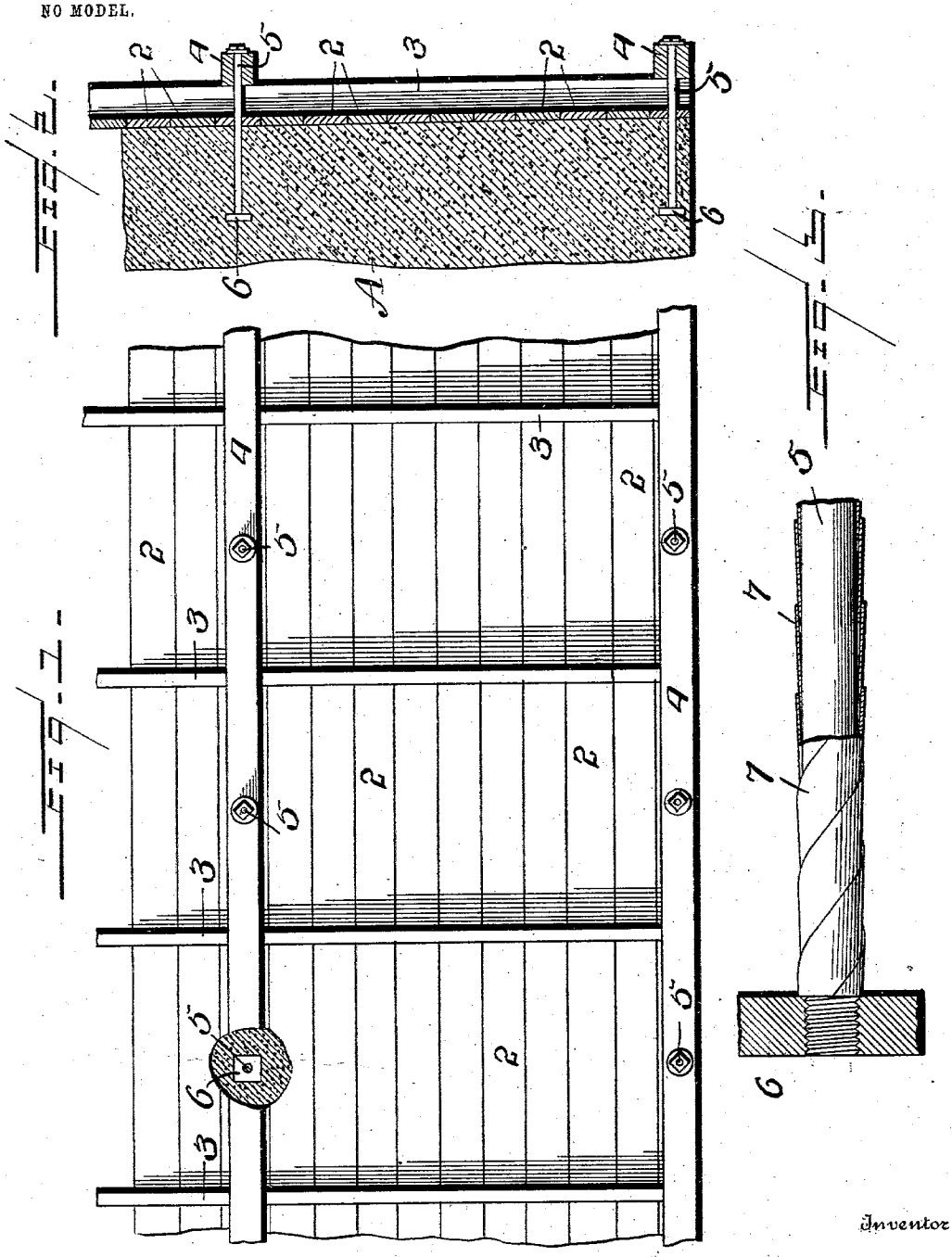
No. 739,549. PATENTED SEPT. 22, 1903.

W. A. KIRK.

MOLD OR FORM FOR CONCRETE WALLS.

APPLICATION FILED APR. 14, 1903.

NO MODEL.



Inventor

William A. Kirk

Witnesses

Wm. A. Dapple.

E. S. Sprow.

By J. S. Barker

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 739,549. Patented September 22, 1903.

UNITED STATES PATENT OFFICE.

WILLIAM A. KIRK, OF MADISON, INDIANA.

MOLD OR FORM FOR CONCRETE WALLS.

SPECIFICATION forming part of Letters Patent No. 739,549, dated September 22, 1903.

Application filed April 14, 1903. Serial No. 152,495. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. KIRK, a citizen of the United States, residing at Madison, in the county of Jefferson and State of Indiana, have invented a new and useful Mold or Form for Concrete Walls, of which the following is a specification.

My invention relates to molds or forms for concrete walls, and is particularly adapted for use in the construction of walls of unusual thickness or in places where but one face of the wall being constructed is exposed. Thus it is particularly adapted for use in the building of retaining-walls and walls for dams, piers, bulkheads, and the like. In the building of such walls out of concrete great difficulty has heretofore been experienced in retaining the form or mold that is employed to give shape to the wall, particularly for its exposed face, the greatest difficulty being experienced in holding the bottom and lower portions of the mold rigid. But little difficulty is experienced in holding the upper part of the mold, as bracing rods or struts can be employed at this portion of the construction; but often it is very difficult to properly anchor or fasten the lower portion of the mold.

My invention has for its object to make it possible to easily hold in place the mold or form for the lower portions of a wall such as has been referred to as securely as the mold or form for the higher parts of the wall are held and to accomplish this without the necessity of first erecting a framework to be permanently embedded within the wall and to which the mold or form is secured by detachable connections.

The invention has other advantageous features, which will be hereinafter pointed out.

In the accompanying drawings, Figure 1 is a front elevation of a portion of a wall-mold embodying my invention. Fig. 2 is a vertical section of the same. Fig. 3 is an enlarged view, partly in section, showing the removable rod for holding the mold, its head or anchor adapted to be embedded in the wall, and the lubricating covering for that portion of the rod that is to be embedded in the wall.

In the accompanying drawings, A indicates a wall of concrete in the course of construction. This wall is supposed to be of considerable thickness and may be so situated as to leave but one face exposed, as where the wall is being built against a face of earth or rock or a wall or face of artificial construction. The exposed face of the wall is given shape and direction by a form or mold, which in some of its features is of general construction. Thus, as represented in the drawings, it is formed of a series of boards 2 set on edge, one above the other, and constituting the sheeting of the mold, and these are held in place by uprights 3 and cross-pieces 4. The size and arrangement of these parts form no part of my invention and need not be set forth in detail.

In order to hold the mold or form in place, I employ a series of independent and adjustable anchoring devices that are partly embedded in the concrete wall A, leaving their outer ends exposed and arranged to serve as supports for the mold or form. Each of these anchoring devices is preferably independent of each other one, permitting many or few to be employed, as circumstances may render necessary, and is provided with an enlarged head that is intended to be embedded in the wall as it is built up and to remain therein, such head being easily separable from that part of the device that extends out beyond the wall-face and engages with the mold or form. The form of anchoring device which I prefer to use is represented in the drawings and consists of a rod 5 and a plate or washer 6, into which the rod is screwed, and that serves as the enlarged head of the device. The outer end of the rod 5 is intended to extend beyond the face of the wall and is arranged to pass through the cross-piece 4 of the frame of the mold, by which means the anchoring devices and the mold are connected. The rod is long enough to extend a sufficient distance into the wall, its inner portions and its head 6 being embedded within the wall as the latter is built up, the head by reason of its size and shape serving to securely anchor the rod in place, so that it becomes a support for the mold. It will be understood that by reason of the screw-thread or other detachable connection between the rod 5 and the head 6 they may be separated and the former removed, leaving the head embedded within the wall when the latter is completed. Before the rod is put in place it

is wrapped with several layers of paper 7 or some equivalent which has been lubricated or treated, so as to permit the rod to be easily turned to unscrew it from its head and then permit it to be withdrawn from the wall.

The manner of working my invention will be readily understood. The wall-form is built up as the wall progresses, and the rods, with their attached heads or anchoring means and the wrappings of paper or lubricating material, are embedded in the wall as it progresses in construction. As soon as the concrete sets, the rod becomes rigidly held and in turn operates to securely and rigidly hold that portion of the form or mold with which it is connected. When it is desired to remove the form or any portion thereof, the rods are disconnected by unscrewing from their heads and pulled out of the wall. In thus removing the rods a neat and perfectly round hole is left, which can be filled with mortar or cement and does not leave an unsightly space in the wall, as is the case when an embedded rod is cut off, an expediency sometimes now resorted to.

By employing independent and adjustable anchoring devices I am enabled to use them in whatever relation to each other it may be found most desirable and in numbers to suit the requirements of the work being done. It is not necessary to locate each anchoring device, or, indeed, any one of them, at a particular place in the wall and to suit the frame of the mold thereto, but, rather, the anchoring devices, by reason of their independence and adjustability, are governed in their positions by the arrangement of the frame-pieces of the mold. They are first secured to the frame of the mold as it is set up, and thereafter take their places in the wall, whatever they may be, as the latter is built up. As soon as the wall sets they become efficient means for holding and supporting the mold. It is found particularly advantageous to have the anchoring devices employed for holding the mold independent and vertically adjustable with reference to each other, because this permits the cross-pieces 4, to which the anchoring devices are usually connected, to be situated at different distances apart, which is sometimes desirable.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with a mold for concrete walls, a series of independent, disconnected, adjustable anchoring devices for holding the mold in place against the face of the wall as it is built up, comprising rods arranged to be embedded in the wall and to extend but part way through the same, and detachable, enlarged heads at the inner ends of the rods arranged to be embedded in the wall and to remain therein when the rods are removed, substantially as set forth.

2. In combination with a mold for concrete walls, comprising a sheeting that serves to give shape to the face of the wall and supports lying outside of and across such sheeting, a series of independent anchoring devices connected with the cross-supports of the mold and adjustable therewith, such anchoring devices comprising rods extending inward from the said cross-supports a distance less than the thickness of the wall and arranged to be embedded therein, and enlarged heads at the inner ends of the rods having separable connection therewith and arranged to be embedded in the wall as it is built up, and to remain therein when the mold and the rods of the anchoring devices are removed, substantially as set forth.

3. In combination with a mold for a concrete wall, a series of independent, adjustable anchoring devices therefor each comprising a rod arranged to be secured to the mold at its outer end and having at its inner end a detachable head, the length of the rod being less than the thickness of the wall, whereby the head and inner portion of the rod are embedded in the wall as the latter is built up, the rod being separable from the head which is left embedded in the wall, substantially as set forth.

4. The combination with a mold for a concrete wall, of the removable rods 5, the independent, disconnected heads or washers 6, screwed onto the inner ends of the rods, and adapted to be embedded in the wall, substantially as set forth.

5. The combination with a mold for a concrete wall, of the rods 5 for supporting the mold, the heads 6 screwed onto the inner ends of the rods and adapted to be embedded in the walls, and the lubricating-coverings 7 for the portions of the rods that are embedded in the wall, substantially as set forth.

WILLIAM A. KIRK.

Witnesses:
OSCAR ROBINSON,
C. W. MANN.