W. L. CUTLER.

MOLD FOR FORMING SILO STAVES.

APPLICATION FILED MAR. 11, 1916.

1,199,877. Patented Oct. 3, 1916.

Fig. 1

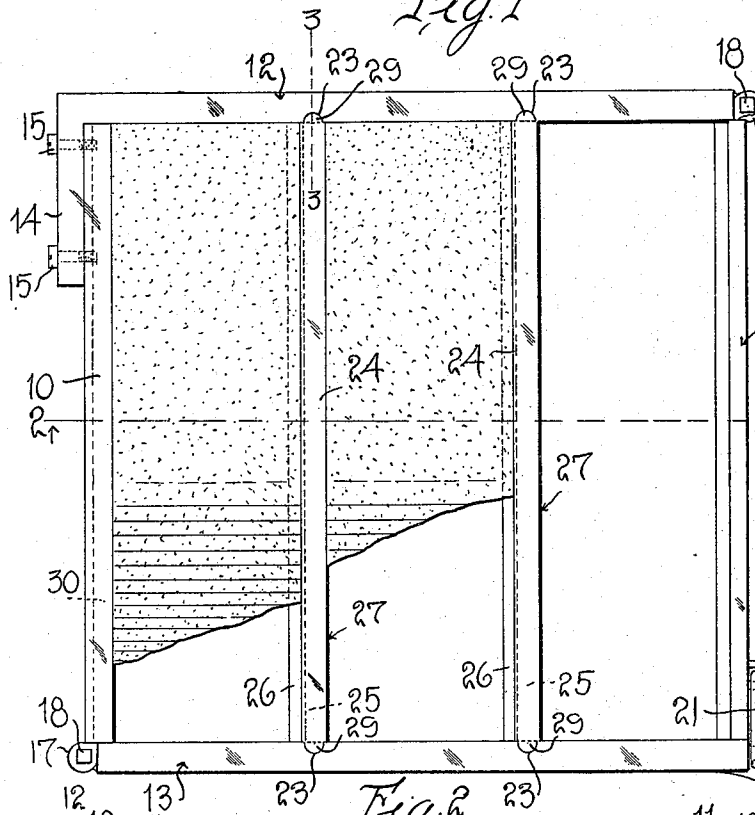


Fig. 5



Fig. 4

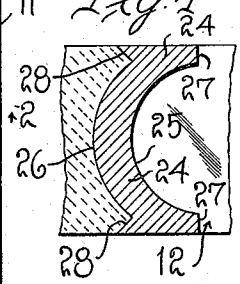


Fig. 6

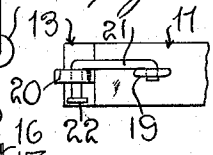


Fig. 2

Fig. 3

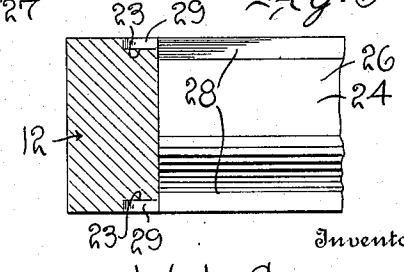


Fig. 7

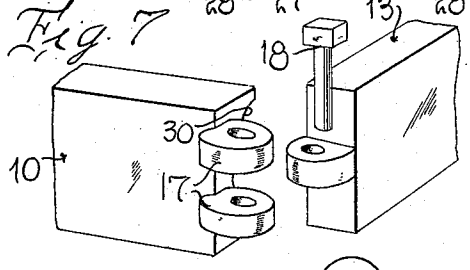
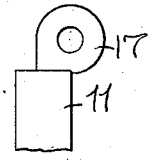


Fig. 8



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MOLD FOR FORMING SILO-STAVES.

1,199,877. Specification of Letters Patent. Patented Oct. 3, 1916.

Application filed March 11, 1916. Serial No. 83,625.

To all whom it may concern:

Be it known that I, WILLIS L. CUTLER, a citizen of the United States, residing at Legrand, in the county of Marshall and State of Iowa, have invented certain new and useful Improvements in Molds for Forming Silo-Staves, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to molds for forming concrete articles, and particularly to molds for forming silo staves.

The general object of this invention is the provision of a mold so constructed that a plurality of concrete silo staves may be formed at one time, and further so constructed that the mold may be readily opened to remove the completed staves or closed into position whereby the staves may be formed.

A further object of the invention is to provide improved means whereby the sections of the mold may be held in proper rectangular relation or squared.

Still another object of the invention is the provision of a mold having longitudinally extending partition members and side members so formed as to form a stave with a convexity on one edge face and a concavity on the opposite edge face, whereby the silo staves may fit into each other, and, in a measure, interlock.

Still another object is to provide improved means for interlocking the longitudinally extending division members of the mold into engagement with the outer walls of the mold and improved means for locking the sections of the mold into rectangular relation when assembled.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a top plan view of a mold constructed in accordance with my invention, showing concrete in place in two of the mold spaces; Fig. 2 is a section on the line 2—2 of Fig. 1; Fig. 3 is a fragmentary section on the line 3—3 of Fig. 1; Fig. 4 is an enlarged cross section of one of the intermediate walls 24; Fig. 5 is a fragmentary perspective view of one of the intermediate walls 24, showing the ear 29; Fig. 6 is a fragmentary elevation of a portion of the walls 11 and 13 showing the latch; Fig. 7 is a perspective view of the means for hingedly connecting the end and side walls to each other; and Fig. 8 is a fragmentary plan view of the hinge end of wall 11.

Referring to the drawings, it will be seen that my improved mold comprises a side member 10, an opposed side member 11 and the opposed end members 12 and 13. The member 12 is formed with an angular extension 14 designed to engage over the adjacent end of the member 10 and be bolted or otherwise attached thereto, as by means of the screws 15, so that the member 12 will be held in right-angular relation to the member 10. The member 12 is formed on its extremity with an ear or ears 16, and the member 11 is formed upon its end face but outward of its inner face with a corresponding ear or ears 17. If there is one ear upon the member 12 then the member 11 is formed with two ears spaced from each other to admit the ears 16 between them. If on the other hand the member 12 is formed with two ears, then the member 11 is formed with one ear adapted to be disposed between the two ears on the member 12. The ears are connected to each other by a pintle 18. The number of ears on the members 11 and 12 is not essential to my invention, but it is essential that the ears 17 shall be spaced from the inner face of the member 11, as illustrated clearly in Fig. 8. The member 10 is also formed with an ear or ears 17 which are spaced from the inner face of the member 10, and the member 13 is formed with an ear or ears coacting with the ear or ears 17 as illustrated in Fig. 7, and held in engagement with each other by a pintle 18. By placing the ears 17 inward of the end face of the member 10 or the member 11, the edge of the members 10 and 11 will abut against the inner faces of the members 13 and 12, respectively, and thus the members 11 and 13 will be held in rectangular relation to the members 12 and 10, respectively. The side wall 11 is provided with a loop or eye 19 and the extremity of the end wall 13 is also formed with an eye 20 which projects beyond the extremity of the end wall, and coacting with these eyes is a latch 21, one end of which is angularly bent and extends down through the loop or eye 20 and is headed, as at 22, while the other end is

downwardly bent and is adapted to be extended downward through the eye 19 to thus latch the side wall 11 to the end wall 13.

At spaced intervals the walls 12 and 13 are formed at their upper and lower corners on their inner faces with concave recesses 23, and adapted to be disposed between the end walls 12 and 13 and engaged in these recesses are the dividing or partition walls 24. I have illustrated two of these walls but it will be understood that the number of walls will depend upon the capacity of the mold and that more than two may be used, if desired. Both of these walls are alike and each wall is formed upon one face with a longitudinally extending concavity 25 and that its other face is longitudinally convex, as at 26. The concave face 25 extends nearly the height of the wall 24 and then connects with the upper and lower faces of the wall by a straight vertical portion 27. The convex face 26 is nearly the height of the wall and connects with the upper and lower faces of the wall by an inclined face 28, as shown most clearly in Fig. 4. At its opposite ends each of the dividing or partition walls 24 is provided with the outwardly projecting ears 29 which are adapted to engage in the recesses 23 and have rounded end faces for that purpose. The end faces of the intermediate portion of the wall 24, between the ears 29, is vertical and fits flat against the inner faces of the walls 12 and 13. (See Fig. 3.)

The inner face of the side wall 10 is made with a concavity 30, of the same form as the concavity 25 in the partition walls 24, and the inner face of the side wall 11 is made with a convexity of exactly the same character as the convexity 26 on the partition wall.

In practical use, the dividing walls 24 are disposed between the walls 12 and 13 with the ears 29 engaged in the recesses 23, and interlocked thereby with the walls 12 and 13. The wall 13 is closed against the ends of the walls 24, 10 and 11, and locked by means of the latch 21. Concrete or other semi-liquid cementitious material is then poured into the mold spaces and when it has sufficiently hardened the latch 21 is released and the end wall 13 opened. The release of the latch 21 permits the end walls 11 and 13 both to be opened, thus permitting the first block to be readily taken out, the first division wall 24 readily removed, then the second block taken out, and so on until all of the blocks are removed. It will of course be understood that the unlatching of the walls 11 and 13 so releases the strain upon the mold that all of the blocks may practically be taken out at one time, or nearly so.

The form of the block made in the mold illustrated is shown in Fig. 2, and it will be seen that the blocks so formed have to an extent interlocking engagement with each other and also that the blocks may be disposed in angular relation with each other so as to form the walls of approximately round silos, if this is desired. The sections of the mold may be entirely disconnected from each other by removing the pintles 18, and the wall 12 may be readily disconnected from the wall 10 by removing the bolts or screws 15. Thus the mold may be put into very portable form and readily transported and set up. The form or mold is preferably made of cast iron, though it may be made of other suitable material. By the use of forms or molds of this character, concrete slabs for silos or other structures may be readily and cheaply made, and the output of these slabs very greatly increased.

Having described the invention, what I claim is:

1. A mold for forming concrete slabs including oppositely disposed end and side walls, one of the end walls being hinged to one of the side walls and the other end wall being hinged to the other side wall, the first-named end wall and the last-named side wall being rigidly connected to each other in rectangular relation, a latch for holding the walls in quadrangular relation, and intermediate partition walls having at their ends upper and lower projecting ears, the end walls being formed with upper and lower recesses to receive said ears, said ears being rounded and the recesses being correspondingly rounded, whereby the partition walls may be shifted into angular relation to the side walls to remove them.

2. In a mold of the character described, an end and a side wall, the end wall having an angular portion overlapping the side wall and detachably bolted thereto and an end and a side wall each pivotally engaged with the first-named end and side walls, and a latch carried by the pivoted end wall and engaging the pivoted side wall to thereby lock the walls in rectangular position.

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

WILLIS L. CUTLER.

Witnesses:
F. B. GILBERT,
F. M. HARADON.

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