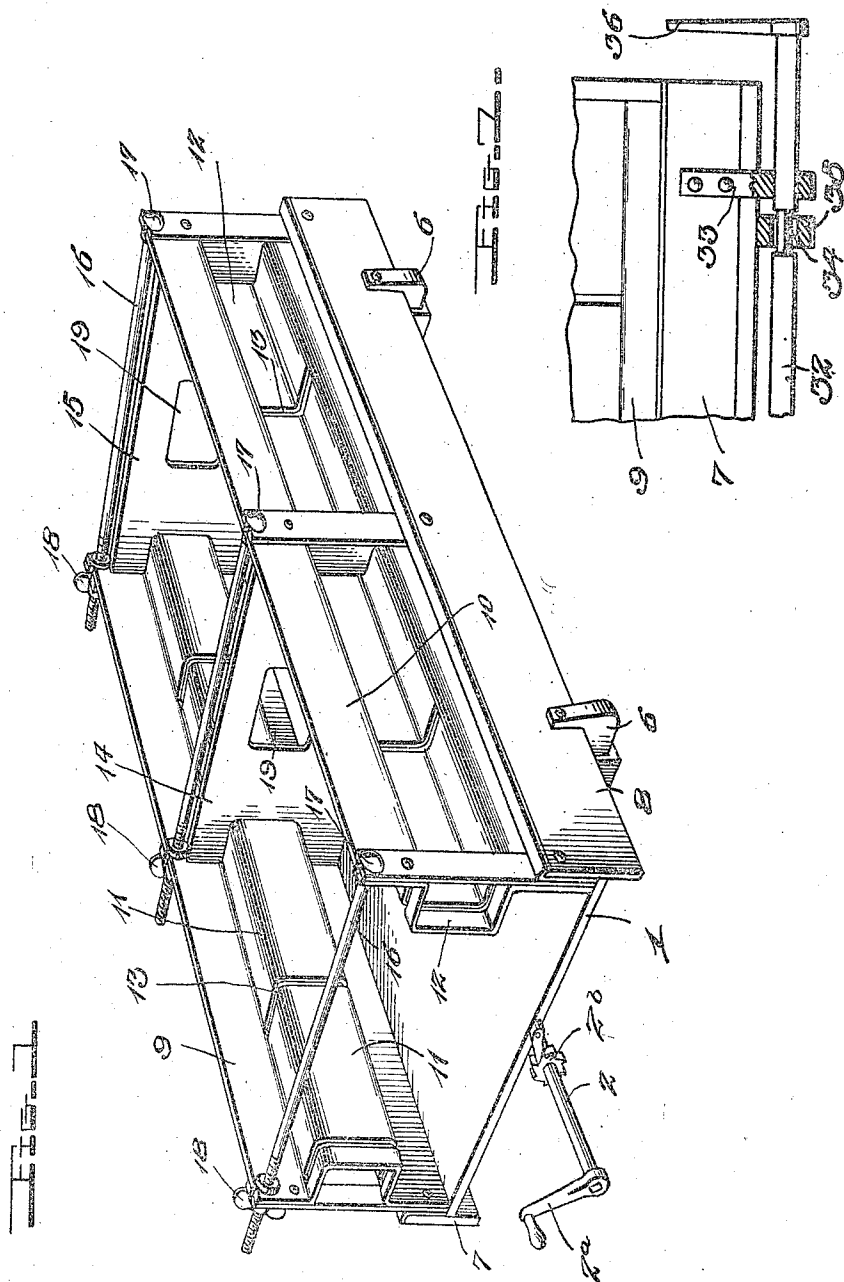


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F. B. JACOBSON.
CONCRETE MOLD AND CORE.
APPLICATION FILED MAR. 27, 1912.

Patented Apr. 29, 1913.
2 SHEETS—SHEET 1.



Witnesses

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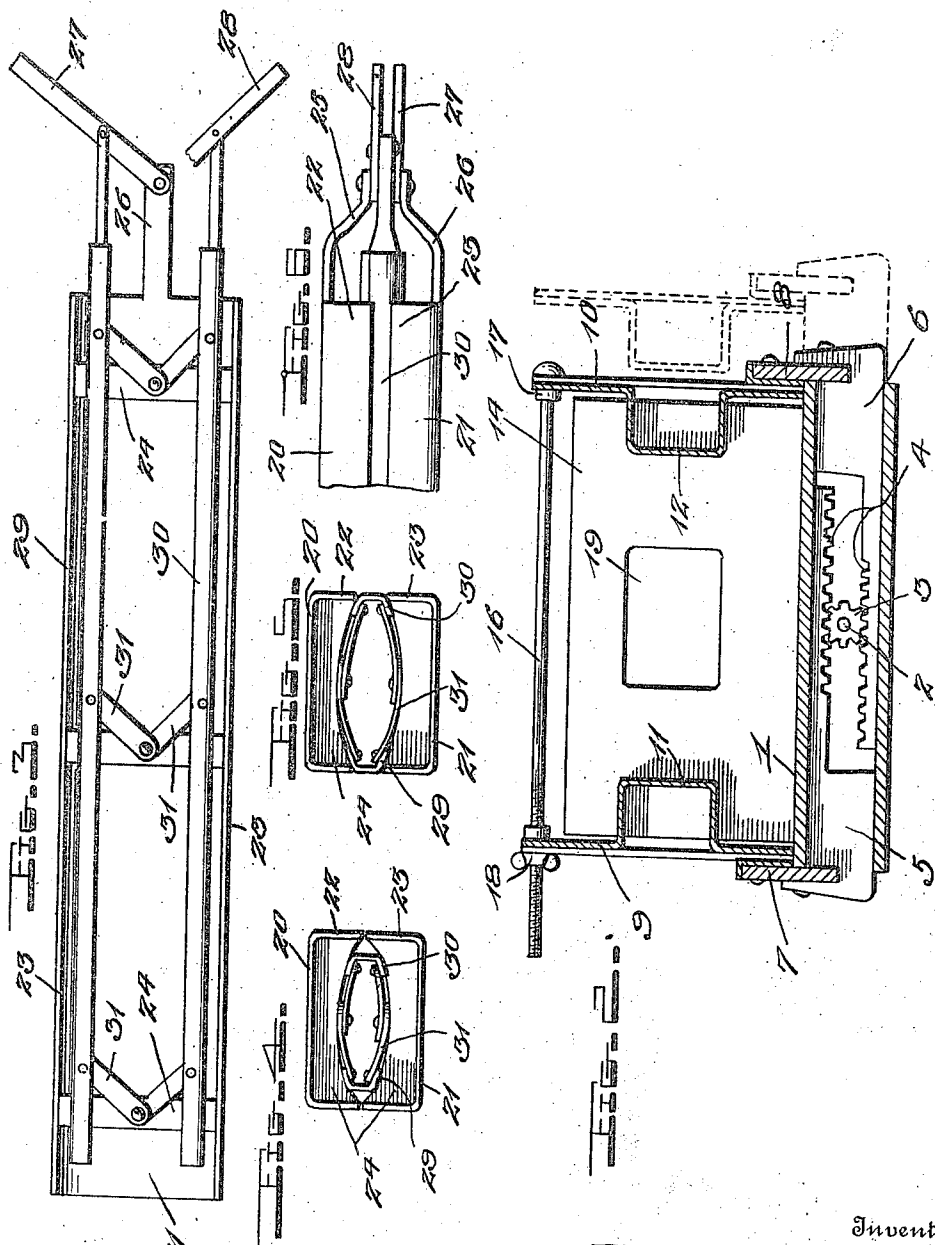
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CONCRETE MOLD AND CORE.

1,060,188.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed March 27, 1912. Serial No. 686,584.

To all whom it may concern:

Be it known that I, FRANK B. JACOBSON, a citizen of the United States, residing at Humboldt, in the county of Humboldt and State of Iowa, have invented certain new and useful Improvements in Concrete Molds and Cores, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improvement in concrete molds and the object thereof is the provision of means whereby in the simplest and most expeditious manner concrete blocks may be formed having transverse edge grooves and one or more transverse openings. Having this object in view I provide a mold having side members which are readily expanded or withdrawn laterally in order to release the finished block, the sides of the mold provided with internal ribs or core members whereby to form an edge groove, and said side members also provided with means for receiving division plates whereby a plurality of blocks may be formed at one and the same time in a single mold, and I also provide an improved mechanism for operating the mold to advance and withdraw the side members.

The invention as thus outlined and as particularly set out in the claims hereto appended will be readily understood from the following detailed description based upon the accompanying drawings, wherein—

Figure 1 is a perspective view of a form with one of the division plates and one of the end plates in position, the central core, one end plate and the remaining division plates being omitted for purposes of clearness; Fig. 2 is a transverse sectional view through the form, indicating in dotted lines the movement of the form elements to release the blocks; Fig. 3 is a plan of the core with the top plate removed; Fig. 4 is an end view of the core in collapsed position; Fig. 5 is a similar view of the core in expanded condition; Fig. 6 is a fragmentary side elevation of the core, and Fig. 7 is a fragmentary side elevation, partly in section, of a modified form of mold construction.

Corresponding and like parts are referred to in the following description and designated in the accompanying drawings by like reference characters.

The base 1 of the mold is adapted to be mounted upon any ordinary form of truck

or other support whereby it may be readily moved from place to place. A shaft 2 is suitably journaled beneath the base of the truck and provided at the two end portions thereof, and preferably also at intervening points, with pinions 3 adapted to mesh with overlapping racks 4 arranged on opposing faces of overlapping slide members 5 and 6 so that as the shaft is rotated in one direction the slide members will be drawn toward each other and in the other direction they will be moved away from each other. The members 5 and 6 are slidably mounted below and with relation to the base 1 in any suitable manner and carry at their outer ends side plates 7 and 8. Extending upwardly from the side plates 7 and 8 and forming a substantial continuation thereof are side members 9 and 10 which form the sides of the mold and serve to confine the concrete therein. These side members 9 and 10 are preferably made of sheet steel of about 18 gage. They are so pressed into shape as to form on the inner sides thereof ribs 11 and 12 which ribs have spaced vertical notches 13 extending from the general plane of the side members inwardly so as to divide the ribs into sections of equal width. These slots are of sufficient width to receive division plates 14 of sheet steel, the plates being dropped into aligned notches formed in the opposing ribs and being firmly held therein against movement longitudinally of the mold. End plates 15 corresponding substantially in shape and otherwise to the division plates 14 are arranged at the two ends of the mold and are adapted to be dropped into notches that are formed in the side members 9 and 10 near the ends of the latter. Releasable tie rods 16 are arranged to be dropped into notches formed in the upper edge of the side members, these rods being provided on their extremities with spaced heads 17 and shoulders 18 whereby they not only serve to hold the side members from spreading but also hold them apart so as to preserve the same in vertical position.

It will be readily understood that when the parts of the mold are in assembled position and the division plates dropped into place the concrete may be filled into the mold and allowed to set, whereupon the tie rods 16 are released and by the turning of the shaft 2 by means of the operating lever 2^a the side members 9 and 10 are caused to

separate, leaving the division plates in position in the blocks. The division plates can then be readily lifted out and the blocks removed.

5 In order to provide the blocks with a transverse opening the division plates 14 and the end plates 15 are provided with central openings 19 which are in alinement when the said plates are in position in the mold, 10 these alined openings permitting a core to be run therethrough whereby to form such transverse openings in the finished blocks. These openings are of a horizontal dimension substantially twice that of the ribs 11 and 12 of the side members so that the opening 15 extending through the block is substantially the same as the opening formed by two adjacent grooves when the blocks are set in place in a wall. The core preferably used 20 by me for the forming of these transverse openings forms the subject matter of a divisional application and comprises top and bottom plates 20 and 21, the top plate having downwardly turned flanges 22 and the 25 lower plate upwardly turned flanges 23 which, in the collapsed condition of the core are spaced apart a slight distance. The top and bottom plates are substantially duplicates one of the other and each of them has 30 formed on its inner sides the transversely extending braces 24 which are longitudinally concave. Extending from the same end of the plates 20 and 21 are bars 25 and 26 and at the ends of these bars are fulcrumed levers 27 and 28. Pivotaly connected to the 35 levers are wedge members 29 and 30 which extend longitudinally of the core with their narrowest portion lying within the space between the opposed flanges of the top and 40 bottom plates. Throughout the length of the core these wedge members are connected one to another and to the braces 24 by toggle levers 31 whereby as the levers 27 and 28 are operated the wedge members are thrown 45 from a position with their thin edges lying in the interspace between the top and bottom plates to a position farther within said interspace, thus forcing the top and bottom plates apart to expand the core in a vertical 50 direction and also expanding the same horizontally. This core is arranged to fit loosely within the openings 19 of the division and end plates. When the mold is ready to receive the concrete, the core is placed longitudinally thereof in its collapsed position 55 and then by the levers 27 and 28 is expanded so as to be confined tightly within the division plates. The concrete is then filled in as before described and closely surrounding 60 the core. After the cement is set the core is

collapsed by the operation of the levers 27 and 28 and the core may be then readily withdrawn and the division plates left free to be withdrawn in turn.

Instead of mounting the side members of 65 the mold upon the slide members having a rack and pinion operation, the side members 9 and 10 may also be carried by the hinged side plates as shown in Fig. 7 the mounting 70 being by means of square shafts 32 nonrotatably affixed in the hinge members 33, the said shafts being provided at one place with a cylindrical portion 34 rotatably mounted in the hinge members 35 so that the rotation 75 of the shafts 32 by the levers 36 serves to swing the side members into open or closed position; otherwise the construction and operation is the same.

Having thus described this invention what is claimed is: 80

1. In a concrete mold, a base, side members mounted to move transversely thereof, said side members having on their inner opposed faces a longitudinal rib, a shaft extending longitudinally of the mold, pinions 85 thereon, and rack members connected to the side members and meshing with the pinions.

2. A mold of the character described, including a base, side members movable transversely of the base toward and away from 90 each other, slide members secured to the side members and movable therewith and extending underneath the base and provided with overlapping racks, a shaft extending underneath the base between said racks, and pinions 95 carried by said shaft and engaging said racks.

3. A mold including a base, side members movable transversely of the base toward and away from each other, slide members secured 100 to the side members and movable therewith and extending underneath the base and provided with overlapping racks, a shaft extending underneath the base between said racks, pinions carried by said shaft and engaging said racks, the side members being 105 formed in their upper edges with notches, tie rods receivable in said notches and extending across the mold from one side member to the other, and fastening devices carried by said tie rods and adjustably mounted 110 thereon and engageable with the side members to hold the same in adjusted position.

In testimony whereof I hereunto affix my 115 signature in the presence of two witnesses.

FRANK B. JACOBSON.

Witnesses:

D. A. RAY,

C. E. PARKER.