F. P. MARTIN.

MOLD.

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1,106,661. Patented Aug. 11, 1914.

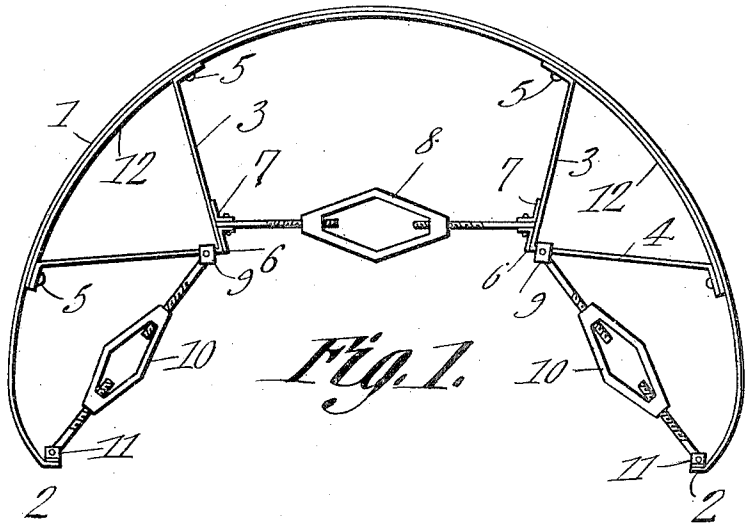


Fig. 1.

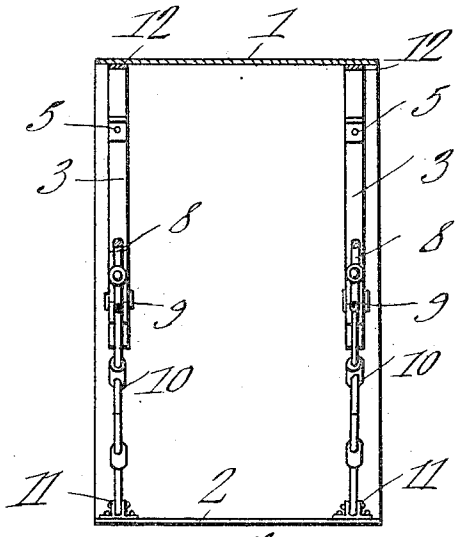


Fig. 2.

Witnesses

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FRANK P. MARTIN, OF WILLIAMSBURG, KANSAS.

MOLD.

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To all whom it may concern:

Be it known that I, FRANK P. MARTIN, a citizen of the United States, residing at Williamsburg, in the county of Franklin and State of Kansas, have invented a new and useful Mold, of which the following is a specification.

This invention relates to sheet metal molds for use in the construction of culverts of limited size.

An object of the present invention is to provide an improved form of mold composed of a single piece of sheet metal to which are secured horizontal and vertical contracting means.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the drawings accompanying this specification and forming a part thereof, the preferable form of my invention is illustrated, in which:—

Figure 1 is a side view in elevation of my improved mold. Fig. 2 is a vertical cross sectional view thereof.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 is a metallic plate preferably formed of sheet steel and bent in the shell-like form as illustrated in Fig. 1 of the drawings. The shell is shown in Fig. 1 of the drawings with the bottom edges 2 thereof bent inward by a tightening of the vertical turn buckles such as would take place when the concrete or other material to be molded has hardened and set and the mold is about to be withdrawn therefrom. However, it is to be noted that when the mold is about to be placed in position prior to the placing of the concrete thereon, the shell is substantially semi-circular in outline and secured approximately central of the first and second quadrants thereof are the triangular brackets comprising the upwardly extending arms 3 and the horizontally extending arms 4 the said brackets being rigidly secured to the shell by rivets 5 or similar means. The said triangular brackets extend inward with the apexes 6 thereof lying in substantially the same horizontal line and approximately central of the first and second quadrants of the semi-circular shell member 1. Rigidly secured upon the upwardly extending arms 3 of the brackets are the attaching members 7 to which the horizontally extending turn buckle 8 is pivotally secured. Rigidly secured to the horizontally extending arms 4 and adjacent the apex 6 of the bracket are the downwardly extending clips 9 to which the turn buckles 10 are pivotally secured at one end. The remote end of the turn buckle is pivotally secured to the upstanding clip 11 secured to the end 2 of the shell plate 1. The turn buckles 10 are inclined at a sharp angle to the horizontal and are adapted to draw the lower ends 2 of the shell member sharply inward as illustrated in Fig. 1 which allows the mold to be drawn away from the side walls of the concrete and allows the top of the mold to sink downward and away from the said upper portion of the arch or culvert being formed. The horizontally extending turn buckle 8 controls the horizontal width of the mold and the inclined turn buckles 10 draw up the lower edges of the shell 1 and allow the top to sink away from the top of the arch or culvert.

From the foregoing it will be apparent that the mold is adapted to form culverts or arches of a fixed dimension and by means of the turn buckles, suitable provision is made for the withdrawing of the mold after the concrete forming the arch or culvert has set. By reason of the brackets disposed approximately central of the first and second quadrants defined by the semi-circular shell 1 the form of the mold will be regular, and the forces applied by the turn buckles will be uniformly distributed. Also provision is made whereby the lower edges of the shell or plate 1 are drawn upward to thereby vary the curvature of the said shell and also to decrease the height thereof whereby the top may be lowered and thereby drawn away from the top of the arch.

From the foregoing it will be apparent that a number of sections such as I have described may be positioned side by side for the molding of a long culvert or arch the meeting edges of the shell-like member 1 being abutted. In order to strengthen the shell at the points where the brackets join the same, the reinforcing strips 12 are provided.

The arrangement of the turn buckles and their relative position to the plate is such they will mutually control the arcuation in such a manner that a large range of configurations can be had. The turn buckles 10 are thus adapted to arcuate the zone of the plate 1 between the ends of the plate and the juncture of the upwardly extending arms 3 therewith. The turn buckle 8 is adapted to arcuate the zone of the plate 1 intermediate the points at which the horizontally extending arms engage the plate. Thus the turn buckles will control the arcuation of certain overlapping zones of the plate.

Having thus fully described the invention what I claim to be new and original with me is:—

A mold comprising an arcuated plate of resilient metal, said plate substantially semi-circular in configuration, brackets secured to said plate disposed substantially central of the first and second quadrants thereof, the said brackets defining substantially equilateral triangles and rigidly secured to said plate, turn buckles extending substantially at 45 degrees to the lower sides of the brackets and pivotally connected at their ends to the adjacent vertices of the said equilateral triangular brackets and to the extremities of the arcuated plate, and a central horizontally extending turn buckle pivotally secured to the adjacent vertices of the said equilateral triangle brackets, said turn buckles controlling the arcuation of the plate in zones, the said zones overlapping and mutually governed by said turn buckles.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FRANK P. MARTIN.

Witnesses:
J. C. ASHCRAFT,
C. B. SWIFT.

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