A. MILLER.

SECTIONAL CORE MOLD.

APPLICATION FILED FEB. 23, 1915.

1,167,093. Patented Jan. 4, 1916.

Fig. 1.

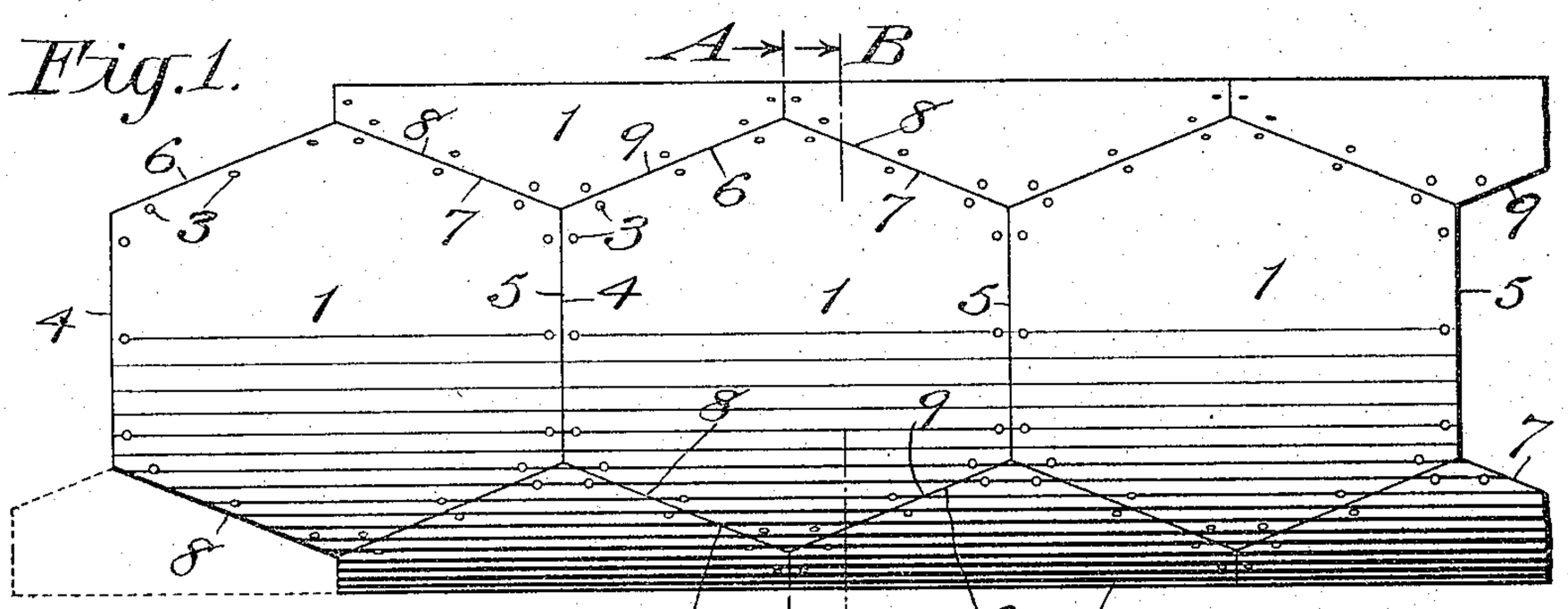


Fig. 2.

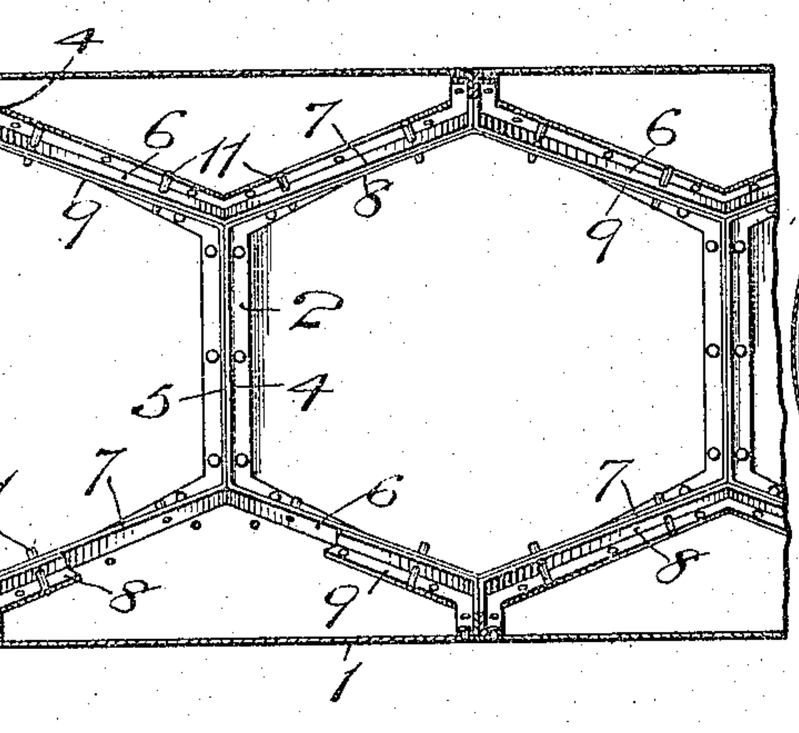


Fig. 3

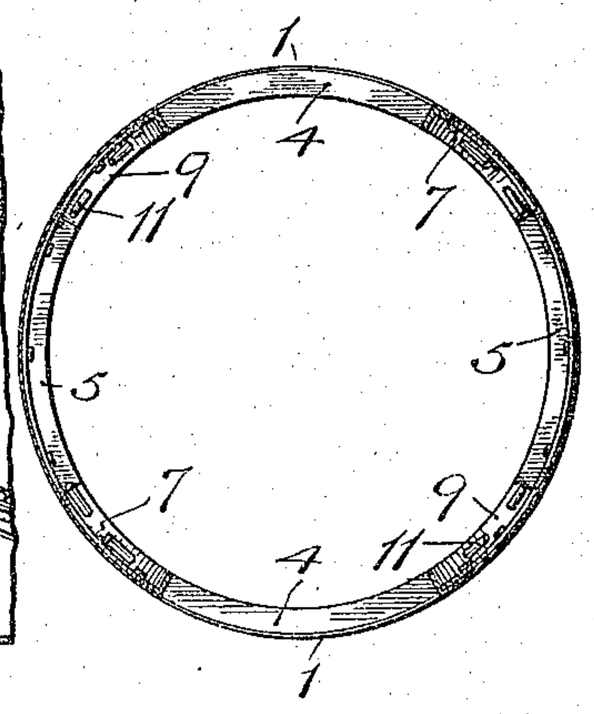
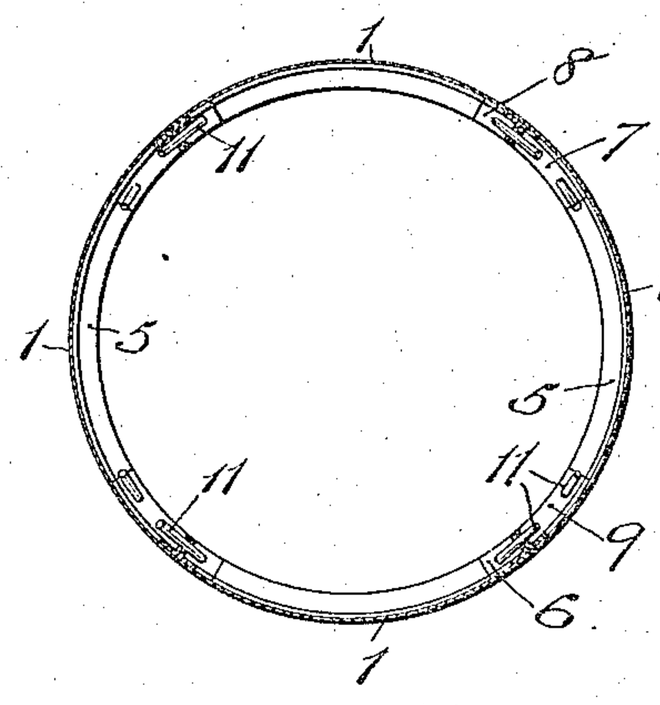


Fig. 4.

Fig. 5.

Fig. 6.



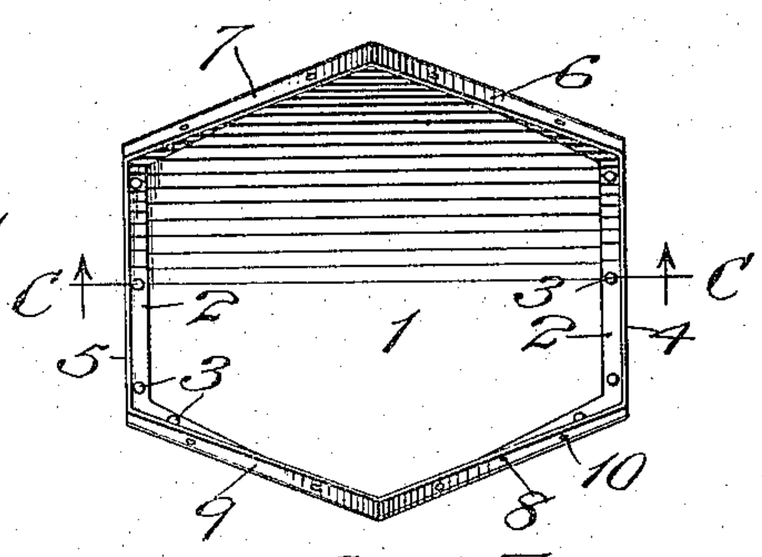
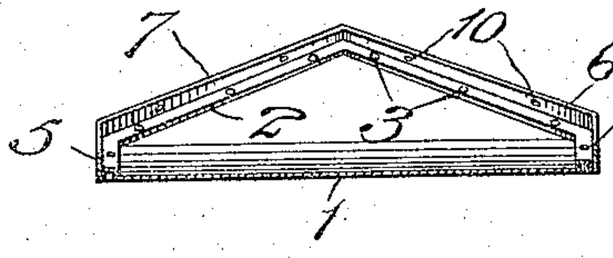


Fig. 7.



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UNITED STATES PATENT OFFICE.

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SECTIONAL CORE-MOLD.

1,167,093. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed February 23, 1915. Serial No. 9,970.

To all whom it may concern:

Be it known that I, ARTHUR MILLER, a citizen of the United States, and resident of the borough of Brooklyn, in the city and State of New York, have invented a new and useful Improvement in Sectional Core-Molds, of which the following is a specification.

This invention relates to an improvement in sectional core-molds in which transversely curved units may be so assembled as to form a core mold suitable for use in the construction of concrete sewers, conduits, manholes, and other similar hollow structures.

The object of my invention is to provide a sectional unit which is especially adapted for use when a structure is made in one continuous length, such as a monolith, in which the series of units forming the core mold may be left in place until the concrete mass has completely set, after which the units may be removed, one at a time, and set up again in line at another position to form a core mold for a new length of structure.

Another object is to provide sectional units which, when assembled, will form a core mold in which certain of the adjacent edges will coact to form broken and oppositely disposed spiral seams throughout the length of the core, thereby giving each unit a large bearing or supporting surface on its adjacent side units.

Another object is to provide a sectional unit having an internal peripheral flange which has a series of holes arranged to be brought into register with the corresponding holes in the peripheral walls of the adjacent units, for the reception of tapered pins for locking the several units together.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a plan view of a number of units in juxtaposition to form a portion of a core-mold, Fig. 2 represents a longitudinal central section through the same, Fig. 3 represents a transverse section taken in the plane of the line A—A of Fig. 1, looking in the direction of the arrows, Fig. 4 represents a transverse section taken in the plane of the line B—B of Fig. 1, looking in the direction of the arrows, Fig. 5 represents an interior view of a sectional unit, Fig. 6 represents an end elevation of the same partly broken away to show the parts more clearly, and Fig. 7 represents a central section taken in the plane of the line C—C of Fig. 5, looking in the direction of the arrows.

The sectional units are denoted by 1 and are provided with peripheral flanges extending inwardly to form abutting walls for the adjacent units. These units are preferably made of sheet metal and of hexagonal form. The flanges, in the present instance, are formed by L-shaped angle irons 2 secured to the unit by rivets 3. The transverse flanges are denoted by 4, 5, and the pairs of oppositely arranged longitudinal side flanges by 6, 7, and 8, 9. The unit is curved transversely, in the present instance between its widest points to cover approximately 120° of the circumference of the core-mold to be built. The transverse end flanges 4 and 5 are parallel and radially disposed so that each flange 4 will abut the flange 5 of the adjacent unit. The side flanges 6 and 8 are radially arranged and are substantially parallel. The flanges 7 and 9 are also radially arranged and are substantially parallel. Thus it will be seen that each flange 6 will abut the flange 9 of the adjacent unit, and each flange 7 will abut the flange 8 of the adjacent unit. All the side flanges will, therefore, be spirally radial with respect to the peripheral surface of the unit. These spirally radial flanges being thus formed and abutted, admit of a large bearing or supporting surface and will resist a very great pressure due to the fact that the more weight that is applied to the outer surface of the units, the tighter the flanges will be forced in both radial and longitudinal directions.

In order to removably secure the several units in position to form the core mold, the flanges 6, 7, 8 and 9 are provided with holes 10, which will register with the corresponding holes in their adjacent flanges; which holes are arranged to receive tapered pins 11.

In assembling the units, it will be seen that the two oppositely disposed units will always project beyond their adjacent units, thereby allowing, in the case of tunneling, for the material between the units, to be removed, and the core being worked ahead while the tunnel, etc., is being built.

It will be seen that a plurality of longitudinal series of units are provided, the units of one series being in staggered relationship to the units of its adjacent series. In the present instance, four of such series have been shown.

By the use of this structure, all interior scaffolding may be eliminated for the reason that it is not necessary to support each unit after it is in place. The spiral flanges upon opposite sides after being pinned to the two adjacent units, will support the balance or overhanging portion of the unit.

While I have shown the sectional units as being of hexagonal form, I wish it understood that they may be made of many different shapes, such as diamond, rhomboid, etc., without departing from the spirit and scope of my invention.

What I claim is:—

1. A core-mold for tubular structures comprising a plurality of longitudinal series of units, the units of one series being interlocked in staggered relationship to the units of another series, thereby forming a continuity of alternating transverse and longitudinal abutting walls.

2. A core-mold for tubular structures comprising a plurality of longitudinal series of units, the units of one series being interlocked in staggered relationship to the units of another series, and means for removably securing the series of units together, thereby forming a continuity of alternating transverse and longitudinal abutting walls.

3. A core-mold for cylindrical structures comprising a plurality of longitudinal series of transversely curved units, the units of one series being interlocked in staggered relationship to the units of another series, thereby forming a continuity of alternating transverse and longitudinal abutting walls.

4. A core-mold for cylindrical structures comprising a plurality of longitudinal series of transversely curved units, the units of one series being interlocked in staggered relationship to the units of another series, and means for removably securing the series of units together, thereby forming a continuity of alternating transverse and longitudinal abutting walls.

5. A core-mold for cylindrical structures comprising a plurality of longitudinal series of transversely curved units, the units of one series being interlocked in staggered relationship to the units of another series, each unit having radially arranged and substantially parallel side flanges, thereby forming a continuity of alternating transverse and longitudinal abutting walls.

6. A core-mold for cylindrical structures comprising a plurality of longitudinal series of transversely curved units, the units of one series being interlocked in staggered relationship to the units of another series, each unit having radially arranged and substantially parallel side flanges, thereby forming a continuity of alternating transverse and longitudinal abutting walls, and means for removably securing the series of units together.

7. A core-mold for cylindrical structures comprising a plurality of longitudinal series of transversely curved units, the units of one series being interlocked in staggered relationship to the units of another series, each unit being provided with interiorly extended peripheral flanges, said flanges being radially arranged with respect to the curved periphery of the unit and substantially parallel with the diametrically opposite flanges, thereby forming a continuity of alternating transverse and longitudinal abutting walls, and means for removably securing the series of units together.

8. A core-mold for cylindrical structures comprising a plurality of longitudinal series of transversely curved units, the units of one series being interlocked in staggered relationship to the units of another series, each unit being provided with interiorly extended peripheral flanges, said flanges being radially arranged with respect to the curved periphery of the unit and substantially parallel with the diametrically opposite flanges, thereby forming a continuity of alternating transverse and longitudinal abutting walls, said flanges having holes therethrough and pins adapted to engage the flanges for securing the series of units together.

9. A core-mold for cylindrical structures comprising a plurality of longitudinal series of transversely curved units, the units of one series being interlocked in staggered relationship to the units of another series, each unit being provided with interiorly extended peripheral flanges, said flanges being spirally and radially arranged with respect to the curved periphery of the unit and substantially parallel with the diametrically opposite side flanges and transversely parallel end flanges, thereby forming a continuity of alternating transverse and longitudinal abutting walls, and means for removably securing the series of units together.

10. A core-mold for cylindrical structures comprising a plurality of longitudinal series of transversely curved units, the units of one series being interlocked in staggered relationship to the units of another series, each unit being provided with interiorly extended peripheral flanges, said flanges being spirally and radially arranged with respect to the curved periphery of the unit and substantially parallel with the diametrically opposite side flanges and transversely parallel end flanges, thereby forming a con-

tinuity of alternating transverse and longitudinal abutting walls, said side flanges having holes therethrough, and pins adapted to engage adjacent flanges for securing the series of units together.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this eighteenth day of February, 1915.

ARTHUR MILLER.

Witnesses:
F. GEORGE BARRY,
C. S. SUNDGREN.