

April 1, 1958

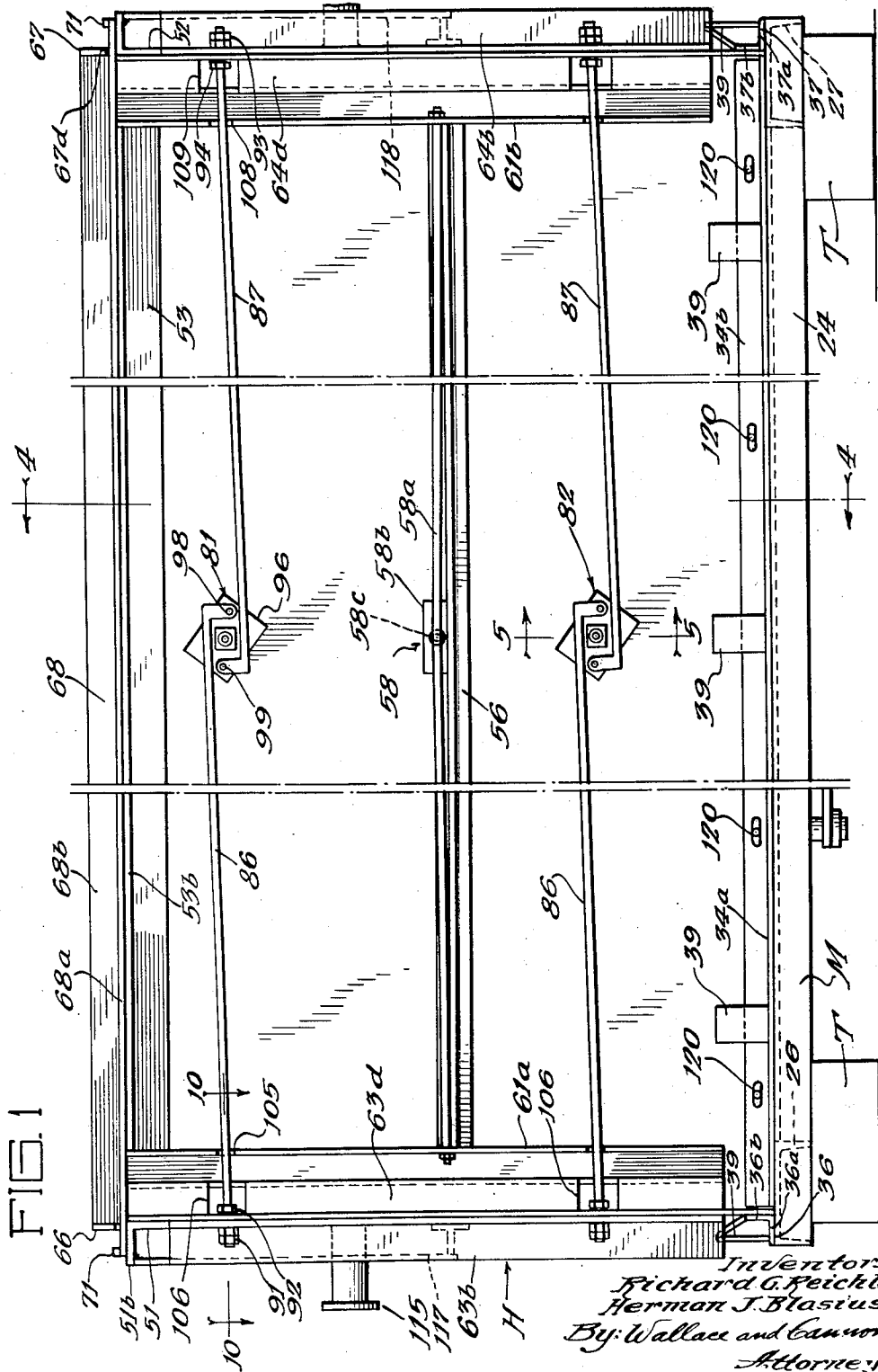
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BURIAL VAULT FORMS

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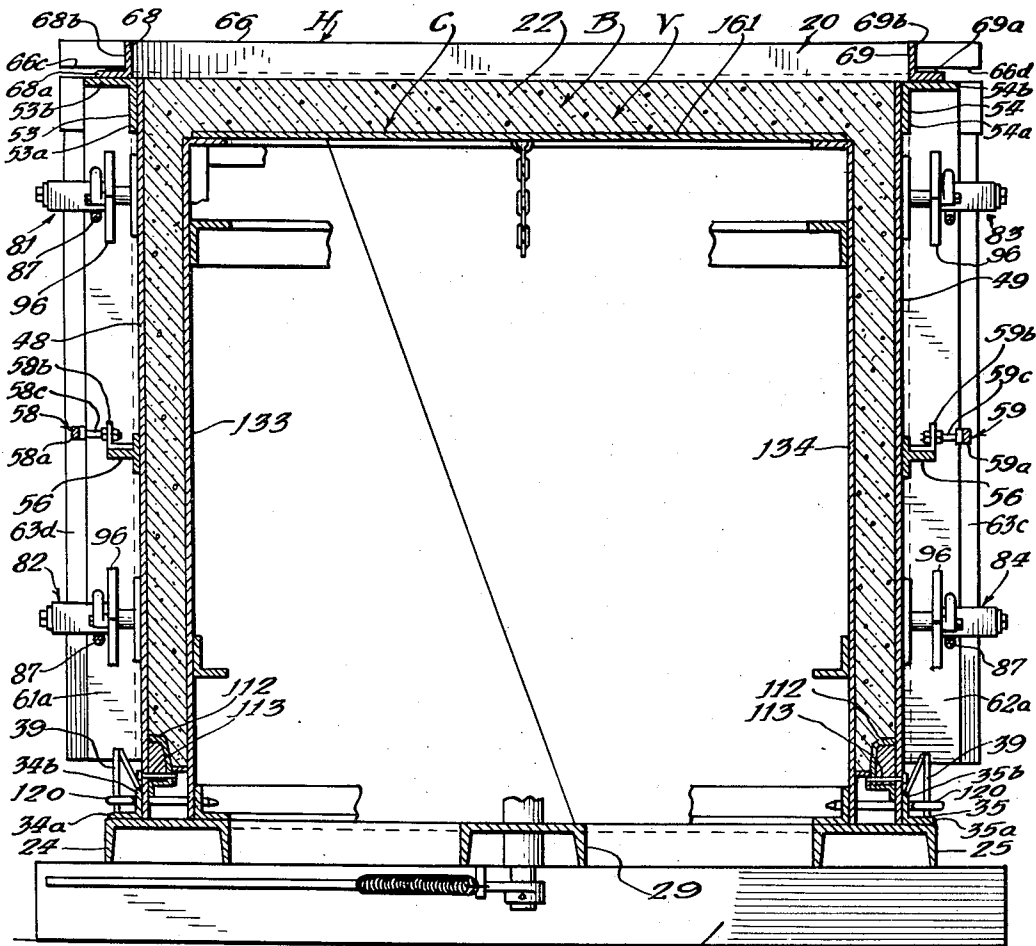


FIG. 4

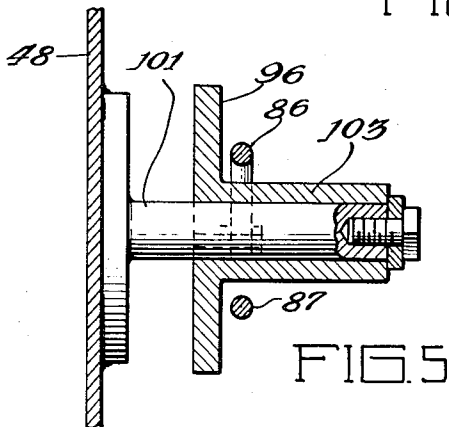
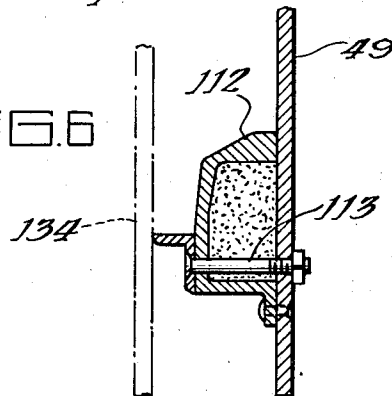


FIG. 5

FIG. 6



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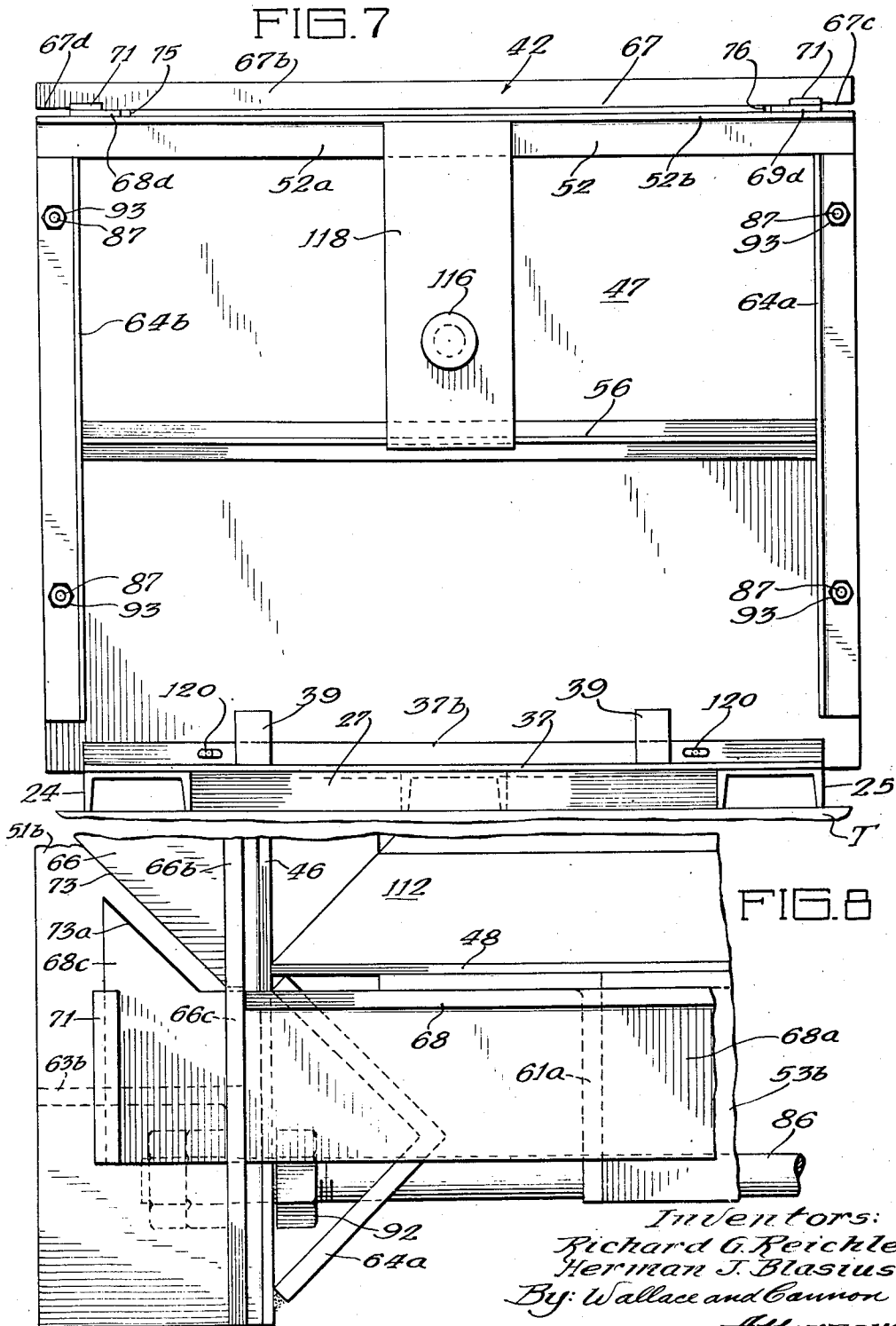
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2,828,526

BURIAL VAULT FORMS

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Application January 3, 1955, Serial No. 479,509

2 Claims. (Cl. 25—130)

This invention relates to forms and, more particularly, to forms particularly well adapted for molding boxes for burial vaults and the like.

Various types of forms for molding boxes for burial vaults and the like, have been heretofore known in the art. However, the forms heretofore known have had several inherent disadvantages such as, for example, being difficult to assemble and disassemble, being difficult if not impossible to adjust to the proper length and breadth and being impractical and inefficient in construction, or the like.

The primary object of our invention is to afford a form which overcomes the aforementioned disadvantages.

Another object of our invention is to afford a novel form embodying an outer housing constituted and arranged in a novel and expeditious manner relative to an inner core.

Another object is to provide a form of the aforementioned type wherein the outer housing thereof may be supported in normal operating position in a novel and expeditious manner and may be released from engagement with a completed burial vault box, or the like, in a novel and expeditious manner.

A further object of our invention is to afford a form of the aforementioned type embodying a novel outer housing which includes side walls movably connected together in a novel manner wherein the walls may be readily moved inwardly and outwardly relative to each other in a novel and expeditious manner.

Another object of our invention is to afford a form embodying a novel outer housing having walls slidably connected to each other in a novel manner for inward and outward sliding movement in a horizontal direction relative to each other.

Yet another object of our invention is to afford a form of the aforementioned type embodying a novel outer housing which is so constructed that when the walls thereof are disposed in normal operating position, they are releasably, but positively, secured in a novel manner against horizontal movement relative to each other.

Yet another object of our invention is to afford a novel form of the aforementioned type embodying a novel outer housing having two end walls which are moveable inwardly and outwardly relative to each other and which are effective on such movement to correspondingly move two side walls of the housing inwardly and outwardly relative to each other in a novel and expeditious manner.

Another object of our invention is to afford a form of the aforementioned type wherein movement of the end walls of the outer housing thereof is effective to positively cam the side walls of the housing inwardly and outwardly relative to each other in a novel and expeditious manner.

Another object of our invention is to afford a form of the aforementioned type wherein the outer housing thereof is positively held in normal operating position

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relative to the inner core thereof in a novel and expeditious manner.

Another object of our invention is to afford a form of the aforementioned type wherein the outer housing and core thereof engage each other in a novel and expeditious manner to afford positive support for each other and thereby assist in properly positioning the core and outer housing, and in retaining the core and the outer housing in proper operating position during the molding operation.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show a preferred embodiment of the present invention and the principles thereof and what we now consider to be the best mode in which we have contemplated applying these principles. Other embodiments of the inventions embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings:

Fig. 1 is a side elevational view of a form illustrating the preferred embodiment of our invention;

Fig. 2 is a top plan view of the form shown in Fig. 1 with the vault illustrated therein being shown in section;

Fig. 3 is a longitudinal sectional view taken substantially along the line 3—3 in Fig. 2;

Fig. 4 is a transverse sectional view taken substantially along the line 4—4 in Fig. 1;

Fig. 5 is a detail sectional view taken substantially along the line 5—5 in Fig. 1;

Fig. 6 is an enlarged detail sectional view of a portion of the form shown in Fig. 4;

Fig. 7 is a right end elevational view of the form as seen in Fig. 1;

Fig. 8 is a detail plan view of a portion of the form shown in Fig. 2;

Fig. 9 is a detail plan view similar to Fig. 8 but with parts of the form disposed in a different position;

Fig. 10 is a detail sectional view taken substantially along the line 10—10 on Fig. 1; and

Fig. 11 is a detail sectional view taken substantially along the line 11—11 in Fig. 9.

For the purpose of illustrating the preferred embodiment of our invention, a form 20 is shown in Figs. 1 to 11, inclusive, of the type particularly well adapted to mold the substantially rectangular-shaped box B of a concrete burial vault V, Figs. 2 and 4. It will be appreciated by those skilled in the art that whereas our invention is disclosed herein as it would be used in the manufacture of concrete burial vaults, this is merely by way of illustration and not by way of limitation and that it equally readily may be used in the manufacture of septic tanks, and the like, without departing from the purview of our invention.

In general, the form 20 comprises an inner housing or core C mounted on a supporting member or base M, and a housing H, mounted on the base M over the core C to thereby afford means for forming the box B of the vault V as will be discussed in greater detail hereinafter. The core C may be of any suitable type such as, for example, a core such as that disclosed in the application for United States Letters Patent of Wesley M. Chandler, Paul F. Heuser and Kenneth C. Smith, filed June 3, 1954, Serial No. 434,252, now Patent No. 2,805,462.

In general, during the operation of the form 20, the core C is mounted in operative position on the base M and the housing H is mounted on the base M outwardly of the core C and in spaced parallel relation thereto, and

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the concrete or other material from which the box B of the vault V is formed is poured into the space between the core C and the housing H. After the concrete or other material from which the box B is formed has "set" or suitably hardened, the core C is released from adherence to the box B and the housing H may be lifted, as a unit, from the core C. The housing H and the box B may be then turned over, as a unit, and placed on wooden blocks or other suitable supporting surface in position wherein the bottom 22 of the box B rests on the blocks or supporting surface. The housing H then may be expanded away from the box B, lifted upwardly from the box B, turned over, and then lowered into enclosing position around the core C on the base M.

The base M, Figs. 1, 2 and 4, comprises two longitudinally extending side members 24 and 25, and two transversely extending end members 26 and 27, connected together at their ends by suitable means, such as, welding, so as to afford a substantially rectangular shaped supporting frame. A substantially centrally disposed, longitudinally extending brace member 29 extends between the longitudinal center portions of the end members 26 and 27, and is suitably connected thereto by suitable means such as welding. Two transverse brace members 31a and 31b, Fig. 2, are disposed between the end members 26 and 27, in parallel relation thereto, and in transverse relation to the brace member 29. The brace members 31a and 31b are disposed in abutting engagement with the brace member 29 and the side members 24 and 25. The side members 24 and 25, the end members 26 and 27, and the bracing members 29, 31a and 31b, are, preferably, made of substantially U-shaped channel members, with the web portions thereof disposed in upwardly facing position.

Four elongated bracing members, 34, 35, 36 and 37, Figs. 1 and 4, are disposed on the upper face of the side members 24, 25, 26 and 27, respectively. Each of the braces 34—37 embodies a substantially horizontally disposed legs 34a, 35a, 36a and 37a, respectively, and an upwardly disposed substantially upright legs 34b, 35b, 36b, and 37b, respectively. The braces 34—37 are preferably in the form of elongated angle irons disposed in parallel relation to the outer edges of the side members 24—27, respectively, with the free longitudinal edge portion of the legs 34a—37a disposed in substantially vertical alignment with the outer edge of the side members 24—27 and with the vertical legs 34b—37b disposed in substantially perpendicular relation to the upper face of the side members 24—27 in inwardly spaced relation to the outer edge of the side members 24—27.

Guide members 39 are mounted on the top surface of the side members 24—27, Figs. 3 and 4, in spaced relation to each other along the brace members 34—37. Each of the guide members 39 comprises a substantially vertical leg 39a and a downwardly and inwardly sloping leg 39b, Figs. 3 and 4, the vertical leg 39a being secured to the upper surface of a respective one of the horizontal legs 34a—37a of the braces 34—37, in substantially vertical position adjacent to the outer edge of the brace members 24—27, respectively, and the leg 39b sloping downwardly and inwardly from the upper end portion of the leg 39a into engagement with the upper edge of the respective vertical flange 34b—37b on the aforementioned corresponding brace 34—37, to thereby afford means for guiding the housing H down into operative position around the core C as will be discussed in greater detail hereinafter.

The base M is mounted on suitable mounting blocks such as timbers T so as to dispose the base M in upwardly spaced relation to the supporting surface such as the floor or the like.

The housing H, Figs. 1, 2, 3, 4, and 7, comprises two end walls 41 and 42 and two side walls 43 and 44, which walls include panels 46, 47, 48 and 49, respectively, Fig. 2, made of any suitable material such as, for example,

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sheet steel. Suitable reinforcing members such as, for example, angle irons 51, 52, 53 and 54, Figs. 3 and 4, are mounted in substantially horizontally extending position along the upper edges of the outer faces of the panels 46—49, respectively, Figs. 3 and 4. The angle irons 51—54 are secured to the panels 46—49, respectively, by suitable means such as welding with the vertical flanges 51a—54a thereof disposed in flat juxtaposition to the outer face of the upper edge portion of the panels 46—49, respectively, and with the horizontal flanges 51b—54b projecting substantially perpendicularly outwardly from the panels 46—49, respectively, in substantially horizontal alignment with the upper edges of the panels 46—49. Other elongated reinforcing members 56, Figs. 1, 3, and 4, are mounted on each of the respective panels 46—49 at the central vertical portion thereof in substantially parallel relation to the members 51—54 respectively.

Two tensioning devices 58 and 59 are secured to the panels 48 and 49, respectively, adjacent to the reinforcing members 56 thereon. The tensioning members 58 and 59 include an elongated rod 58a and 59a, respectively, each attached between the opposite end portions of the respective one of the panels 48 and 49. The central portions of the rod 58a and 59a are connected to the respective adjacent reinforcing member 56 by means of a bracket 58b and 59b, and take-up bolts 58c and 59c extending through the rods 58 and 59 and the respective brackets 58b and 59b, Fig. 4. By adjusting the bolts 58c and 59c, the tension on the rods 58 and 59 and, therefore, the panels 48 and 49, respectively, may be adjusted to prevent undesirable buckling of the panels 48 and 49.

Each of the side panels 48 and 49 has two vertically extending elongated reinforcing members such as angle irons 61a and 61b, and 62a and 62b, respectively, disposed adjacent to, but in inwardly spaced parallel relation to, the respective ends thereof, Figs. 1, 2 and 9. Similarly, each of the end panels 46 and 47 has two substantially vertically extending elongated reinforcing members 63a and 63b, and 64a and 64b, respectively, disposed adjacent to, and in parallel relation to, the opposite respective vertical edges thereof, Figs. 2 and 7.

It will be noted, Figs. 2 and 4, that the end panels 46 and 47 project horizontally outwardly beyond the side panels 48 and 49. Camming plates 63c, 63d, 64c and 64d are mounted on the inner faces of the panels 46 and 47 in substantially oppositely disposed parallel relation to the reinforcing members 63a, 63b, 64a and 64b, respectively, Figs. 2 and 10. Each of the cam plates 63c, 63d, 64c, and 64d, comprises an elongated angle iron with the apex of the junction between the two flanges thereof projecting inwardly from the inner face of the respective end panel 46 or 47. With the cam plates 63c, 63d, 64c and 64d so disposed on the end panels 46 and 47, the inwardly disposed flanges thereof are engageable with the side walls 43 and 44 to cam the latter back into operative position during setting up of the form H as will be discussed in greater detail hereinafter.

Two top guide members in the form of angle irons 66 and 67 are mounted on the reinforcing members 51 and 52 on the panels 46 and 47, respectively, Figs. 2 and 3, and form the upper ends of the end walls 41 and 42, respectively. The angle irons 66 and 67 have bottom horizontal legs 66a and 67a and upwardly projecting vertical legs 66b and 67b, respectively. The angle irons 66 and 67 are mounted on the bracing members 51 and 52, respectively with the legs 66a and 67a disposed in juxtaposition to the legs 51b and 52b respectively, and with the upright legs 66b and 67b projecting upwardly from the bracing members 51 and 52 outwardly of, and adjacent to, the upper edge of the panels 46 and 47, respectively.

The outer end portions of the flanges 66a and 67a of the guide members 66 and 67 are cut away so that the flanges 66a and 67a terminate at their outer ends inwardly

of, and adjacent to the innermost horizontal position of the inner faces of the side panels 48 and 49. Similarly, the lower longitudinal edges of the outer end portions of the vertical flanges 66b and 67b of the guide members 66 and 67 are cut away for the same distance inwardly as are the flanges 66a and 67a. Thus it will be seen that two slots 66c and 66d, Fig. 4, are formed between the outer end portions of the guide member 66 and the flange 51b of the reinforcing member 51, and, likewise, two slots 67c and 67d, Fig. 7, are formed between the outer end portions of the guide member 67 and the flange 52b of the reinforcing member 52, for a purpose which will be explained more fully hereinafter.

Two guide members 68 and 69 in the form of angle irons are, also, mounted on the reinforcing members 53 and 54, respectively, and form the upper edge portion of the side walls 48 and 49, respectively. The angle irons 68 and 69 each embodies a horizontal flange 68a and 69a, and a vertically disposed flange 68b and 69b, respectively. The angle irons 68 and 69 are disposed on the reinforcing members 53 and 54, with the flanges 68a and 69a disposed in juxtaposition to the flanges 53b and 54b, respectively. As may be seen in Fig. 2 the flanges 68a and 69a are longer than the flanges 68b and 69b and project outwardly beyond the side panels 48 and 49 to afford guide strips 68c and 68d, 69c and 69d, respectively, which project outwardly through the slots 66c and 67d, and 66d and 67c, respectively, Figs. 2, 3 and 7.

It will be seen, Fig. 2, that the guide strips 68c and 68d, and 69c and 69d, are disposed a substantial distance inwardly from the outer edges of the slots 66c and 67d and 67c and 66d, respectively, when the walls 41—44 are disposed in normal burial vault forming position such as shown in Fig. 2. With this construction it will be seen that the walls 43 and 44 may be moved a substantial distance outwardly away from each other and the walls 41 and 42 may likewise be moved a substantial distance outwardly away from each other while still retaining the guide strips 68c, 68d, 69c and 69d in engagement in the respective guide slots 66c, 67d, 67c and 66d, respectively.

Stop members 71 in the form of upwardly projecting lugs, Figs. 1, 2 and 3, and 11 are formed on the outer end edges of the guide strips 68c, 68d, 69c and 69d, and project upwardly from the respective one of the guide strips a distance sufficient to engage the respective adjacent flange 66b or 67b to thereby prevent the walls 41 or 42 from being moved outwardly away from each other a distance sufficient to move the wall 41 or 42 outwardly off from the guide strips 68c, 68d, 69c or 69d.

The walls 41—44 are of such size, and the guide members 66—69 are so disposed thereon, that when the walls 41—44 are disposed in closed, or vault forming position, Fig. 2, the panels 48 and 49 are disposed in abutting relation to the inner faces of the panels 46 and 47, and the inner edges of the reinforcing members 68 and 69 are disposed in abutting relation to the inner end of the slots 66d and 67c and 66c and 67d, respectively.

The ends of the flanges 66a and 66b are cut at an angle to form horizontal cam surfaces 73, 74, 75 and 76, respectively. The ends of the guide strips 68c 69d, 68d, and 69c are so formed as to afford cam surfaces which are complementary to, and which are disposed in parallel relation to, the cam surfaces 73, 74, 75 and 76, respectively. Hence, it will be seen that if, during the operation of our novel form 20, the walls 41 and 42 are moved outwardly away from each other, the cam surfaces 73 and 74 on the reinforcing members 66 engage the corresponding cam surfaces 73a and 74a on the guide strips 68c and 69c, and the cam surfaces 75 and 76 on the reinforcing member 67 engage the cam surfaces 75a and 76a on the guide strips 68d and 69d, to thereby cam the walls 43 and 44 outwardly relative to each other. Thereafter, if, after the walls 41 and 42 have thus been moved outwardly relative to each other, they are then moved inwardly relative to each other, it will be seen that the

camming plates 63c and 63d, and 64c and 64d on the opposite ends of the walls 41 and 42, respectively, engage the adjacent outer faces of the walls 43 and 44, to thereby cam the walls 43 and 44 back inwardly toward each other into the normally closed position shown in Fig. 2.

To effect such movement of the walls 41—44 we afford actuating mechanism 81 and 82 on the side wall 43 and similar actuating mechanism 83 and 84 on the side wall 44, Figs. 1 and 4. The actuating mechanism 81 includes two push rods 86 and 87 of substantially L-shape having the free end of the longer leg thereof extending through the outer edge portions of the panels 46 and 47 of the end walls 41 and 42, respectively, Figs. 1 and 10, which project outwardly beyond the side wall 43. The push rod 86 is attached to the end wall 41 by two nuts 91 and 92 threaded on the push rod 86 and clampingly engaged with the end wall 41. Similarly, the push rod 87 is attached to the end wall 42 by two nuts 93 and 94 threadedly engaged with the push rod 87 on opposite sides of the panel 47 and clampingly engaged with the latter. The free ends of the short legs of the push rods 86 and 87 are pivotally connected to an eccentric plate 96 by suitable means such as pins 98 and 99, respectively. The eccentric plate 96 is rotatably mounted on a stud 101 which projects outwardly from the outer face of the panel 48 of the side wall 43. A hub 103, which is preferably square in cross-section, Figs. 1 and 5, projects outwardly from the eccentric plate 96 in axial alignment with the stud 101 and affords a member onto which a complementary-shaped lug wrench, or the like, may be mounted for the purpose of turning the plate 96 on the stud 101. The pins 98 and 99 are diametrically disposed relative to each other on opposite sides of the stud 101 and when the walls 41 and 42 are disposed in closed, or normal vault forming position, and the pins 98 and 99 are disposed in a position wherein they are past dead center relative to the stud 101 to thereby afford a locking mechanism which is positive in action in retaining the end walls 41 and 42 in closed position.

The push rod 86 extends through an opening 105 in the reinforcing member 61 and through an opening 106 in the cam member 64a on the end wall 41, Figs. 1 and 8. Similarly, the push rod 87 extends through an opening 108 in the reinforcing member 62 and through an opening 109 in the cam member 63a on the end wall 42.

Thus it will be seen that by rotating the actuating member 81 in a counterclockwise direction from the position shown in Fig. 1 the push rods 86 and 87 may be moved outwardly away from each other to thereby push the upper ends of the end walls 41 and 42 away from each other. When the upper ends of the end walls 41 and 42 have thus been moved outwardly away from each other, they may again be moved back toward each other by reversing the rotation of the actuating mechanism 81, or, in other words, rotating the eccentric plate 96 in a clockwise direction to thereby pull the push rods 86 and 87 back into the position shown in Fig. 1. The other actuating mechanisms 82—84 are constructed identically to the actuating mechanism 81 and similar parts thereof are indicated by the same reference numerals.

Hence, it will be seen that by simultaneously actuating the actuating mechanisms 81—84 the end walls 41 and 42 may be moved bodily outwardly away from each other from the position shown in Figs. 1 and 8 to a position such as shown in Fig. 9. It will be remembered that such outward movement of the end walls 41 and 42 is effective, through engagement of the cam surfaces 73—76 with the cam surfaces 73a—76a, Fig. 2, to cam the side walls 43 and 44 outwardly away from each other. Also, the reverse, or, in other words, the inward movement of the end walls 41 and 42 are effective through the engagement of the cam members 63c, 63d, 64c, and 64d with the side walls 43 and 44, to again cam the side walls 43 and 44 inwardly toward each other.

When the actuating mechanisms 81—84 are disposed

in the latched position such as shown in Fig. 1, wherein the pins 98 and 99 have moved past dead center position relative to the stud 101, it will be seen that the end walls 41 and 42 are effectively latched in inwardly disposed position wherein they are disposed in abutting relation to the panels 48 and 49 of the side walls 43 and 44. Thus the end walls 41 and 42 are clamped in predetermined stationary position relative to each other and are likewise effective to clamp the side walls 43 and 44 in normal operating position, this latter clamping being effected between the cam plates 63a and 64a, and the inner edges of the slots 66c, 66d, 67c and 67d. Hence, it will be seen that the walls 41—44 are positively secured in predetermined position wherein they accurately define the predetermined outer size of the box B, or the like, to be formed therein, and the panels 46—49 are disposed in such closely abutting relation to each other as to form sharp outer corners on the box B to be formed within the housing H.

A molding strip 112 is mounted on the bottom portion of the inner face of each of the panels 46—49 in spaced relation to the lower edge of the respective panel, Figs. 3 and 4. Each molding strip 112 is secured to the respective panel 46—49 by rivets 113 and is disposed in the same horizontal plane as the strips 112 on the other panels 46—49. Each of the strips 112 project inwardly from the respective panel 46—49 such a distance that the inner edge of the strip 112 abuts the outer face of the respective adjacent panel 131—134 of the core C when the core C and housing H are disposed in normal operative position. The ends of each strip 112 are beveled to fit in tight abutting engagement with the adjacent end of each adjacent strip 112, whereby the strips 112 afford a continuous bottom for supporting molding material between the core C and the housing H when they are disposed in normal operative position on the base M. It will be seen that with this construction, all of the molding strips 112 may be carried by the housing H and engaged with the smooth outer face of the sidewalls 131—134 of the core C rather than have abutting guide strips carried partially by an outer housing and partially by an inner housing or core, such as shown in the aforementioned Chandler et al. application, Serial No. 434,252, now Patent No. 2,805,462.

Two trunnions 115 and 116 are mounted on the outer faces of the panels 46 and 47, respectively, Figs. 1 and 2, by suitable means such as welding, and afford members which may be readily engaged by grappling hooks, or the like, for raising the housing H upwardly from the core C and the base M. Two reinforcing members 117 and 118 are mounted on the walls 41 and 42, respectively, Fig. 3, the member 117 extending between the reinforcing members 51 and 56 on the panel 46, and the reinforcing member 118 extending between the reinforcing members 52 and 56 on the panel 47. The trunnions 115 and 116 project outwardly through and are supported by the reinforcing members 117 and 118, respectively.

In the operation of our device, the core C is preferably first disposed in normal position on the base M. The housing H, with the side walls 41—44 disposed in partially expanded position, may then be lowered, as a unit, onto the base M into spaced relation to the core C. It will be noted that in lowering the housing H onto the base M, the guide members 39 engage the outer edges of the housing H so that the legs 39b guide the housing H into proper position relative to the base M and the core C. The actuating mechanism 81—84 may then be actuated to move the walls 41—44 of the housing H inwardly into normal position. When the housing H and core C are disposed in proper operating position on the base M, the molding strips 112 are disposed in engagement with the outer face of the adjacent one of the panels 131—134 to thereby form a tight bottom wall to support concrete or other material to be poured into the space between the housing H and the core C. Suit-

able centering or holding devices, such as, drift pins 120, Figs. 1 and 3 may then be inserted through the lower edge portions of the core C and the housing H and the vertical flange 36b of the braces 36, to thereby positively hold the core C and housing H in centered position on the base M.

With the housing H thus properly positioned around the core C, the concrete, or other material, from which the box B is to be formed may be poured on to the top of the core C in sufficient quantity so that the space between the core C and the housing H is completely filled and the core C is covered to the level of the upper edges of the panels 46—49 of the housing H. The top surface of the concrete, or like material, may then be suitably smoothed by suitable methods, such as, for example, trowling or floating to afford a smooth bottom surface for the box B after the concrete has suitably hardened.

After the concrete or like material from which the box B is formed has "set" or, in other words, suitably hardened, the core C may be actuated to release it from adherence to the box B. After the core C has thus been loosened from the box B, the box B and the housing H may be raised upwardly as a unit from the core C and the base M by lifting on the trunnions 115 and 116 projecting from the end walls 41 and 42 of the housing H. Such lifting of the box B and the housing H may be performed by any suitable means such as, for example, a chain hoist, any holding means such as drift pins 120, having been removed from the form 20 before collapsing of the core C.

After the housing H and the box B have been lifted as a unit clear of the core C, the housing H and the box B may be turned as a unit on the trunnions 115 and 116 to thereby dispose the bottom of the box B in lowermost position. The housing H and the box B may then be lowered as a unit on a suitable supporting surface such as, for example, blocks or timbers which will engage the box B and fit inside of the outline of the walls 41—44 of the housing H to thereby support the housing H and the box B by its engagement with the bottom of the box B.

After the housing H and the box B are suitably supported on the bottom of the box B, the actuating mechanisms 81—84 may be actuated to loosen the housing H on the box B. The actuating mechanisms 81—84 may be individually operated one at a time by a single workman or, if desired, may be actuated simultaneously by two workmen, one workman on each side of the housing H and each workman simultaneously actuating two handles connected to the lugs 103 on the actuating mechanism 81—84 on his side of the housing H.

In operating the actuating mechanism 81—84 to loosen the housing H on the vault V, the actuating mechanism is turned in a counterclockwise direction as shown in Fig. 1 to thereby rotate the eccentric plates 96 in a counterclockwise direction and cause the push rods 86 and 87 to be moved outwardly away from each other. Such movement of the push rods 86 and 87 is effective to push the end walls 41 and 42 of the housing H outwardly away from each other and this latter movement of the end walls 41 and 42 is effective through the engagement of the cam surfaces 73—76 with the cam surfaces 73a—76a to move the side walls 43 and 44 outwardly away from each other. This outward movement of the walls 43 and 44 is effective to completely separate the housing H from the vault V so that the housing H may then be lifted from the vault V. The housing H may then be lowered back over the core C and lowered down into position wherein the walls 31—34 rest on the guides 39. The actuating mechanisms 81—84 may then be actuated in a reverse movement, that is, by rotating the lugs 103 in a clockwise direction as viewed in Fig. 1 to thereby pull the push rods 86 and 87 inwardly toward each other. Such inward movement of the push rods 86 and 87 is effective to move the end walls 41 and 42 inwardly toward each other and this latter move-

ment of the end walls 41 and 42 through the engagement of the two pairs of cam plates 63c and 64c, and 63d and 64d, with the outer end portions of the side walls 44 and 43, respectively, is effective to move the side walls 43 and 44 inwardly into normal position as shown in Fig. 2. This inward movement of the walls 43—44 of the housing H permits the housing H to drop downwardly into normal position relative to the core C, in which position the braces 34—37 are disposed in abutting engagement with the outer faces of the walls 41—44, respectively, of the housing H, and each of the molding strips 112 is again disposed in abutting engagement with the adjacent wall 131—134 of the core C. In this downward movement of the housing H the guide members 39 properly guide the housing H into the desired normal position. The form 20 is then in position to again receive concrete or other suitable material in the formation of a new box.

From the foregoing it will be seen we have afforded a novel form 20 which is sturdy in construction, reliable in operation, and may be quickly and easily operated in a novel and expeditious manner both in assembling the form and in releasing the form from an article such as the box B which has been formed therein.

Thus, while we have illustrated and described the preferred embodiment of our invention, it is to be understood that this is capable of variation and modification, and we therefore do not wish to be limited to the precise details set forth, but desire to avail ourselves of such changes and alterations as fall within the purview of the following claims.

We claim:

1. In a form of the type embodying a central core, a housing adapted to be mounted around said core in spaced relation thereto to afford a space between said housing and said core for receiving molding material in structure-forming position in said housing, said housing comprising two substantially upright end walls disposed in substantially parallel relation to each other, two elongated substantially upright side walls disposed in substantially parallel relation to each other between said end walls, means mounted on said side walls and connected to said end walls for pushing said end walls outwardly and pulling them inwardly relative to each other, two cam surfaces on each of said end walls, said cam surfaces on each of said end walls diverging from each other in the direction of the other of said end walls, two cam surfaces on each of said side walls, said cam surfaces on each of said side walls diverging from each other in the direction of the other of said side walls, each of said second mentioned cam surfaces being disposed in parallel relation to one of said first mentioned cam surfaces and in the path of travel thereof in such position that, during outward movement of said end walls, said first mentioned cam surfaces operatively engage said second mentioned cam surfaces and cam said side walls outwardly relative to each other, and two other cam surfaces on each of said end walls,

each of said other cam surfaces on each of said end walls being disposed outwardly of a respective one of said side walls in position to operatively engage said one side wall and urge said side wall inwardly toward the other of said side walls during said inward movement of said end walls.

2. In a form, a housing comprising two upright end walls, and two upright side walls, said walls having a normal position wherein said side walls are disposed in abutting relation to the inner faces of said end walls, said walls having an actuated position wherein said walls are disposed in horizontally spaced relation to each other, means connected to said side walls and end walls for moving said walls between said normal and actuated positions, and means for guiding said walls between said normal and actuated positions, said last named means comprising elongated members mounted on and carried by said end walls, each of said elongated members projecting longitudinally from the upper edge portion of a respective horizontal end of one of said end walls in a horizontal direction, each of said elongated members having a cam surface thereon and having an elongated slot extending longitudinally of said elongated member, other elongated members mounted on and carried by said side walls, each of said other elongated members projecting longitudinally from the upper edge portion of a respective end of one of said side walls in a horizontal direction and projecting through one of said slots, said other elongated members each having a cam surface disposed in position to be engaged by a respective one of said first mentioned cam surfaces and to be moved outwardly by the latter, during said movement of said end walls from normal position toward actuated position to thereby urge said side walls toward actuated position, and cam plates mounted on said end walls outwardly of said side walls in horizontally overlying relation to the horizontal ends of said side walls in position to urge said side walls inwardly toward said normal position during movement of said end walls from actuated position toward normal position.

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