

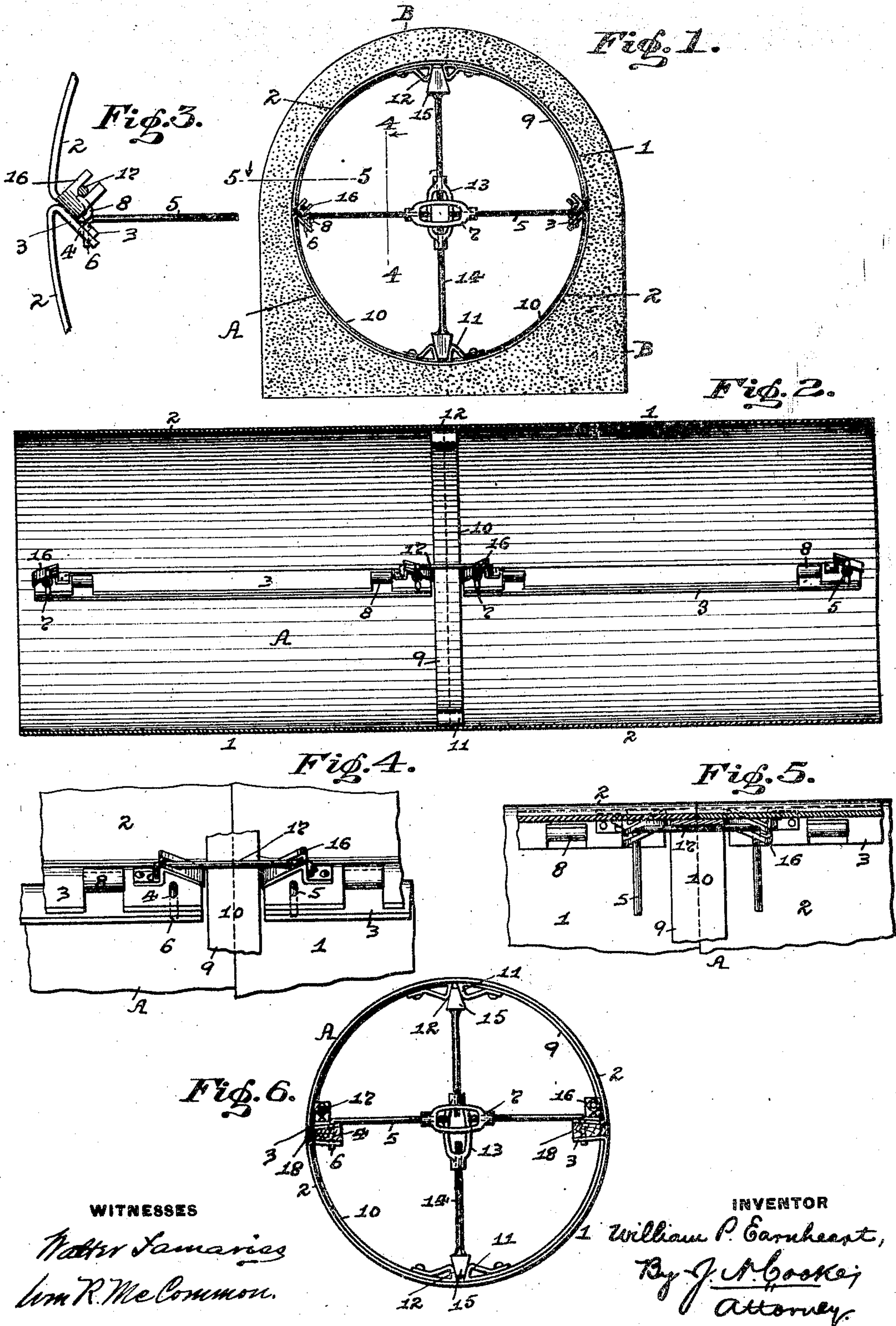
No. 840,924.

PATENTED JAN. 8, 1907.

W. P. EARNHEART,

MOLD.

APPLICATION FILED MAY 5, 1906



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MOLD.

No. 840,924.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed May 5, 1906. Serial No. 315,290.

To all whom it may concern:

Be it known that I, WILLIAM P. EARNHEART, a resident of Wilksburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Molds; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to molds, and has special relation to what are known as "sewer-molds" or "centers."

The object of my invention is to provide such a form of mold which will be cheap, simple, and efficient in its construction, as well as one which can be easily, quickly, and conveniently set in position and removed when desired.

My invention consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved mold, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a vertical section of a sewer-mold embodying my invention. Fig. 2 is a longitudinal central section of the same. Fig. 3 is an enlarged detail end view of a portion of the segments employed. Fig. 4 is an enlarged section on the line 4 4, Fig. 1, looking in the direction of the arrow. Fig. 5 is a like view on the line 5 5, Fig. 1, looking in the direction of the arrow. Fig. 6 is another vertical section of a mold, showing my invention in another form.

Like symbols of reference herein indicate like parts in each of the figures of the drawings.

As illustrated in said drawings, 1 represents the mold, which is composed of a member or cylinder A, formed of upper and lower sections or segments 2 and constructed of sheet metal. These segments 2 are connected together as one to form the mold 1, and on such mold a sewer of cement, brick, or other masonry may be formed or built up, as shown at B in Fig. 1. In order to connect the segments 2 together at each of their ends in forming the mold 1, the side edges of the same are provided with downwardly-extending flanged portions 3, which are bent in-

wardly from said segments on the same angle or inclination with each other and have the slotted holes 4 formed through each end of the same for the reception of the hooked ends 6, formed on the screw-rods 5, extending across and within the mold 1 and engaging with the turnbuckle 7. These screw-rods 5 are provided with right and left hand threads at the inner ends of the same, where they are engaged by said turnbuckle 7, so that by turning said buckle in one direction the bent portions 3 will be pressed together, thereby pressing the two opposite segments together, so as to firmly brace and sustain the same and which in a measure will expand the diameter of the existing mold-cylinder. When said buckle 7 is rotated in the opposite direction, the bent portions 3 are relieved and the segments are then permitted to contract or close, and thus in a manner reduce the diameter of said cylinder. At each end of the bent portions 3 on the upper segment 2 is formed a lug or projection 8, which is formed by slitting said portions and bending up the same, so that when the pressure on such bent portions is relieved, as hereinbefore stated, the hooked ends 6 on the screw-rods 5 can be placed against the rear of the projections 8, and then the turnbuckle 7 can be turned in the direction for relieving the segments for drawing in the sides of the upper segment to disconnect said segments and to remove the same.

The operation of my improved mold is as follows: The lower segment 2 of the cylinder is placed in a trench, on which is previously laid the cement or other material for the lower portion of the sewer B, and then such material is placed around said lower segment, after which the upper segment 2 of said cylinder is placed upon the lower segment thereof. The turnbuckle 7, carrying the screw-rods 5, is then placed in position by inserting the hooked ends 6 on said rods within the slotted holes 4 in the bent portions 3 on said segments 2, and then said buckle is operated to tighten said bent portions against each other and to permit said segments to spread outwardly to a limited extent. While the segments 2 are thus subjected to pressure from within the cylinder formed by the same when thus in position and due to the action of the buckle 7 and screw-rods 5, it will present the structure required on which the cement or

other material is laid to form the upper portion of the sewer B.

Another section or cylinder can now be placed in position against the one previously located, and these two cylinders have the ends of the segments 2 composing the same abutting against each other and are coupled together by a ring 9, formed of sheet metal and composed of two segments 10, which are placed within the cylinders between the ends of the bent portions 3 and over and under the joint between the cylinders formed by their abutting ends. The segments 10 for the ring 9 are provided at their ends with inward projections or lugs 11, which are bent back from said ends and are riveted to the said segments in order to provide for inclined faces 12 on said lugs.

A turnbuckle 13, carrying and engaging the screw-rods 14, is placed within the cylinders and at right angles or diametrically opposite the turnbuckle 7 and the rods 5, and these rods 14 have a triangular-shaped block 15 at their outer ends for engaging with the inclined faces 12 on the lugs 11. When in rotating said turnbuckle 13 in the proper direction, the blocks 15 will be moved outward along said faces 12 by reason of the right and left hand screw-threads on said rods 14 engaging with said turnbuckle, and so expand and press the segments 10 of the ring 9 firmly against the inner faces of said cylinders to brace and sustain the same and form a tight joint between the cylinders and ring. When said turnbuckle 13 is rotated in the opposite direction, the blocks 15 will be withdrawn along the faces 12 on the lugs 11 to relieve the pressure on the segments 10 of the ring 9, and so permit said segments to contract or close, as well as in a measure reduce, the diameter of the ring 9.

After the cement or other material has been placed over these cylinders and become set and it is desired to remove said cylinders for forming another section of the sewer the rods 14 are drawn inwardly through the turnbuckle 13 to relieve the pressure of the blocks 15 on the lugs 11 of the segmental ring 9, as above described, so that said rods and ring can be taken out of the mold. After this is done the screw-rods 5 are drawn inwardly by the turnbuckle 7, as above described, to an extent to free the hooked ends 6 thereon from the pressure exerted thereon within the holes 4 of the bent portions 3, when the ends 6 can be lifted out of said holes and be placed in engagement with the rear of the projections 8 on the upper segments 2 of the cylinders, so that by the continued drawing in of said rods 5 the side portions of the said segments will be drawn or be sprung in to a sufficient size, and thereby permit the said bent portions on said segments to slide down along the like portions on the lower segments. This will permit the upper segments to be

freed from the cement forming the upper wall of the sewer, and as the diameter of these segments is thus reduced the said segments can be slid along the lower sections and taken out, after which the lower segments can be taken out, so that the mold may be withdrawn through the sewer and entirely removed therefrom.

In case it is desired to add other means to the mold for the purpose of forming a tight connection between the ends of the sections or cylinders a slotted lug 16 can be connected to or formed at each end of the bent portions 3 on the upper segments 2 of said cylinder, so that a screw-bolt 17 can be placed within the slots of the adjacent lugs on each cylinder and so drawn up as to press the ends of the cylinders tightly against each other.

It will also be evident that the bent portions 3 can be projected at right angles to the side edges of the segments 2 and flared therefrom, as shown in Fig. 6, so that strips of wood or other suitable material 18 can be placed between said flared portions, and then the segments and strips can be held in place by the screw-rods 5 passing through the same, and the strips can be withdrawn when desired lengthwise by taking out the rods 5. This will permit the upper segments 2 to drop down and be freed from the cement, so that the bent portions 3 thereon will rest upon the bent portions 3 on the lower segments, and then said segments can be withdrawn, as before described.

The mold can be made in tubular shapes other than cylindrical, as well as in other shapes, and can be provided with a number of sections, as well as be employed for a variety of purposes and uses, while various modifications and changes in the construction and operation of the same may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

It will thus be seen that my improved mold contains few parts and does not require skilled labor or mechanics to use the same, as in the ordinary cases, while at the same time the mold presents a strong structure, and the sewer is molded in an effective, practical, and convenient manner. The mold being formed of pressed sheet metal will do away with a number of interlocking devices or other parts usually employed on the same, as well as the use of a number of bolts or rivets, which were usually required to be countersunk in order not to mar or render unworkmanlike the appearance of the sewer-face. It will also do away with duplicated means usually employed for use on both the lower and upper cylinder-segments for different purposes, and all parts are strong and durable and not liable to become loosened or get out of order either when in use or after being detached from the mold. The parts

are also absolutely interchangeable, and the mold is supported vertically and horizontally by both of the screw-rods, and such rods act as tension members, as well as members to permit the mold to collapse.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, means for contracting the collapsible section, and means for permitting the withdrawal of the contracting section on the adjacent section.

2. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, means on said sections for contracting the collapsible section, and means on said sections for permitting the withdrawal of the contracting section on the adjacent section.

3. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, means for contracting the collapsible section, and inwardly-extending portions on said sections for permitting the withdrawal of the contracting section on the adjacent section.

4. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, means for contracting the collapsible section, and bent portions extending inwardly from said sections for permitting the withdrawal of the contracting section on the adjacent section.

5. A mold for sewers, &c., consisting of sections, one of which is collapsible, two inwardly-extending portions on each side of each of said sections and opposite each other for permitting the withdrawal of the contracting section on the adjacent section, means within said mold and connected to said portions for expanding and sustaining the mold, and means for contracting the collapsible section.

6. A mold for sewers, &c., consisting of sections, one of which is collapsible, two inwardly-extending portions on each side of each of said sections and opposite each other for permitting the withdrawal of the contracting section on the adjacent section, means within said mold and connected to said portions for expanding and sustaining the mold, means for contracting the collapsible section, and means on said extending portions for engaging with said contracting means to permit said section to be contracted.

7. A mold for sewers, &c., consisting of sections, one of which is collapsible, two inwardly-extending portions on each side of each of said sections and opposite each other

for permitting the withdrawal of the contracting section on the adjacent section, means within said mold and connected to said portions for expanding and sustaining the mold, means for contracting the collapsible section, and bent portions on said inwardly-extending portions for engaging with said contracting means to permit said section to be contracted.

8. A mold for sewers, &c., composed of divided cylinders or members, and means within said mold and fitting over the joint between the adjacent two divisions of said members and capable of being expanded and contracted to and from said joint.

9. A mold for sewers, &c., composed of divided cylinders or members, and a sectional ring within said mold and fitting over the joint between the adjacent two divisions of said members and capable of being expanded and contracted to and from said joint.

10. A mold for sewers, &c., composed of divided cylinders or members, a sectional ring within said mold and fitting over the joint between the adjacent two divisions of said members, and means engaging with said ring-sections for expanding and contracting the same to and from said joint.

11. A mold for sewers, &c., composed of divided cylinders or members, a sectional ring within said mold and fitting over the joint between the adjacent two divisions of said members, and means fitting between and engaging with the ends of said ring-sections for expanding and contracting the same to and from said joint.

12. A mold for sewers, &c., composed of divided cylinders or members, a sectional ring within said mold and fitting over the joint between the adjacent two divisions of said members, screw-rods fitting between and engaging with the ends of said ring-sections, and a rotatable device engaging with said rods for expanding and contracting said ring-sections to and from said joint.

13. A mold for sewers, &c., composed of divided cylinders or members, a sectional ring within said mold and fitting over the joint between the ends of said members, lugs on the adjacent two divisions of said ring-sections, screw-rods, inclined blocks on the ends of said rods for engaging with said lugs, and a rotatable device engaging with said rods for moving said blocks to expand and contract said ring-sections to and from said joint.

14. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, inwardly-extending portions on said sections for permitting the withdrawal of the contracting section on the adjacent section, and connections between the ends of said portions for forming a tight joint between the ends of said sections.

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15. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, inwardly-extending portions on said sections for permitting the withdrawal of the contracting section on the adjacent section, and bolted screw-rods fitting between the ends of said portions for forming a tight joint between the ends of said sections.

16. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, inwardly-extending portions on said sections for permitting the withdrawal of the contracting section on the adjacent section, lugs on the ends of said portions, and bolted screw-rods fitting between the ends of said portions and connected to said lugs for forming a tight joint between the ends of said sections.

17. A section for a mold for sewers, &c., consisting of a plate having a flanged portion on the side edges thereof and formed integral therewith for permitting the same to be withdrawn on the adjacent section.

18. A section for a mold for sewers, &c., consisting of a plate having an inwardly-extending flanged portion on the side edge thereof and formed integral therewith for

permitting the same to be withdrawn on the adjacent section.

19. A section for a mold for sewers, &c., consisting of a plate having an inwardly-extending flanged portion on the side edge thereof and formed integral therewith and at an angle thereto for permitting the same to be withdrawn on the adjacent section.

20. A section for a mold for sewers, &c., consisting of a plate having an inwardly-extending flanged portion on the side edge thereof and formed integral therewith and having integral lugs formed at the end of said portion for permitting the same to be withdrawn on the adjacent section.

21. A section for a mold for sewers, &c., consisting of a plate having an inwardly-extending flanged portion on each side edge thereof and formed integral therewith and having integral lugs formed from the side edges of said portions for permitting the same to be withdrawn on the adjacent section.

In testimony whereof I, the said WILLIAM P. EARNHEART, have hereunto set my hand.

WILLIAM P. EARNHEART.

Witnesses:

J. N. COOKE,

WM. R. McCOMMON.