

May 3, 1932.

C. W. HATFIELD

1,856,834

### TILE AND PIPE FORM

Filed Jan. 12, 1931

Fig. 1.

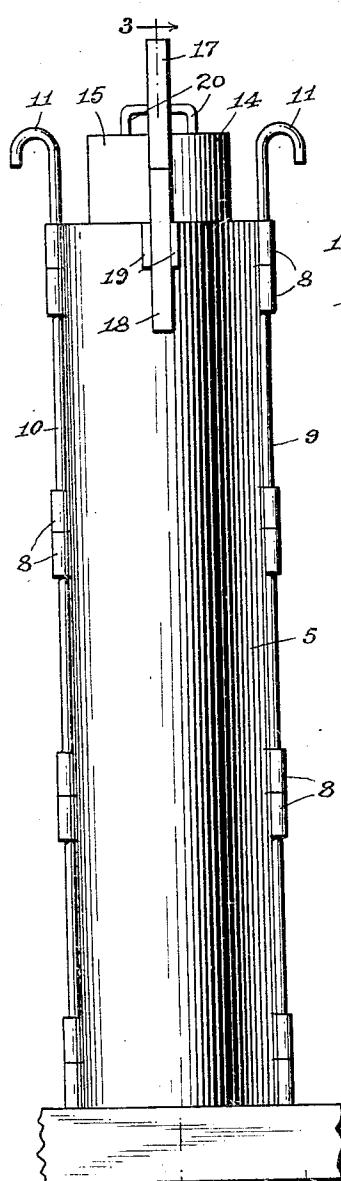


Fig. 3.

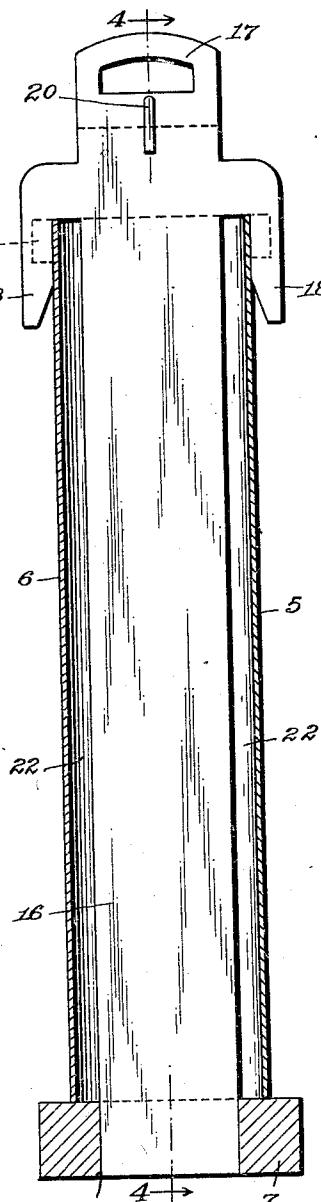
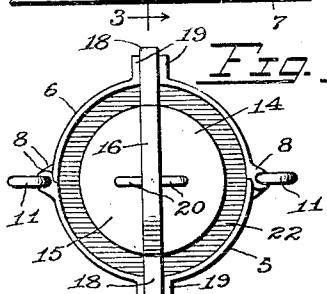
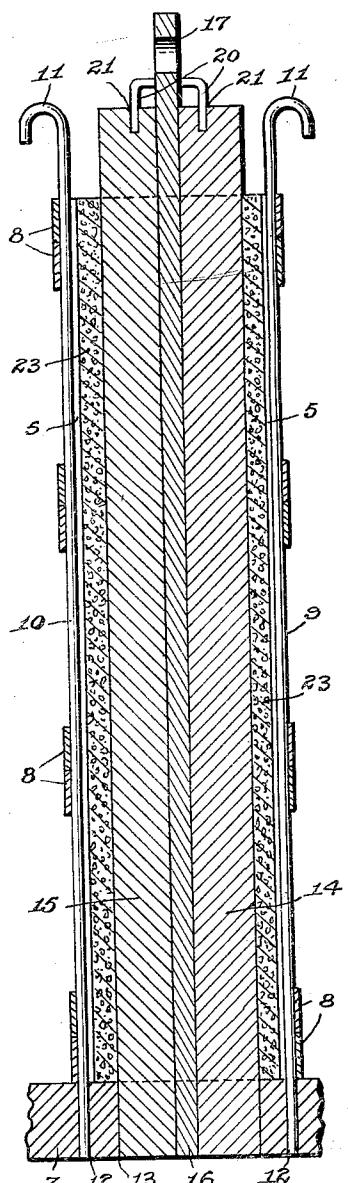


Fig. 4.



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# UNITED STATES PATENT OFFICE

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## TILE AND PIPE FORM

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My invention relates to tile and pipe forms and certain objects of the invention are to provide a form comprising means wherein short lengths of pipe may be moulded and removed therefrom while in the semi-solid state without damage or abrasion of the surface pores and whereby the pipes may thus solidify or set with a maximum degree of porosity, the ultimate objects of the invention being to provide pipes that are wholly porous throughout and some of which may afterwards be made partly watertight and totally watertight for the purpose of conveying water across land for irrigation and discharging some of the water through the porous portions of the pipe line as hereinafter set forth.

With the above and other objects in view which will appear as the description proceeds, the invention consists of the novel construction, adaptation, combination and arrangement of parts hereinafter described and claimed. These objects are accomplished by devices illustrated in the accompanying drawings, wherein:

Figure 1 is a view in side elevation of the pipe form;

Fig. 2 is a top plan view of the same;

Fig. 3 is a view in central vertical section taken substantially on a broken line 3, 3 of Fig. 2; and

Fig. 4 is a similar view taken on a broken line 4, 4 of Fig. 3.

Referring to the drawings throughout which like reference numerals indicate like parts, the numerals 5 and 6 designate the two halves of the outside cylindrical shell or casing that ordinarily rest on a wooden base board 7. Said halves are each provided with a plurality of complementary lugs 8 that coincide when the edges of the casing are placed together. Vertical rods 9 and 10 are passed through said lugs to fasten said cylindrical halves together and are provided with upper hooked ends 11. Said rods also

pass downwardly through holes 12 in the base board and either or both may be lifted out by their hooked ends and removed when it is desired to open and remove the cylinder as will be understood.

A large hole 13 is cut through the base board 7 in concentric alignment with the small holes 12 and is adapted to receive the lower ends of a pair of semi-cylindrical core members 14 and 15 that project upwardly above the outside casing as shown in Figs. 1 and 4 of the drawings. An equal portion is cut away from the inner faces of said two core members to provide a space sufficient to snugly receive a spreader member 16. Said spreader extends to the bottom of the base board and entirely above said core members where it is provided with a handle portion 17 whereby it may be lifted out. Said upper portion is also provided with a pair of wing members 18 that fit into guides 19 formed on the upper exterior ends of the shell members 5 and 6, and fingers 20 that fit into holes 21 in the core members.

Thus, in the assembled position, it will be seen that all the elements of the device are held rigidly and detachably in place, the rods 9 and 10 holding the casing, the hole 13 holding the bottoms of the core members 14 and 15 and the spreader 16, the lugs 19 holding the upper end of said spreader and the fingers 21 holding the upper ends of the core members concentrically in place. Thus an annular space 22 is provided between the outside shell or casing and the core members to receive the concrete 23 as shown in Fig. 4.

In the use of my device the concrete 23, or other mixture for forming the pipe or tile, is poured or filled in from the top and allowed to remain for a short time or until it has just reached the point of set whereby it will stand by itself. The spreader member 16 is then lifted out by its handle 17 and the core members 14 and 15 are then pressed together and lifted out. After this one or

both of the rods 9 and 10 are lifted out and the casing members 5 and 6 are removed. If only one of said rods is removed the casing is opened like a hinge. It will be noted that 5 the core and casing members are removed laterally and bodily away from the concrete pipe. Abrasion or rubbing of the concrete surfaces which closes the pores and prevents the formation of a perfectly porous pipe is 10 thus prevented and the pipe is free to dry out by itself without being in contact with any object thus ensuring a perfectly porous pipe.

The ultimate advantages in the use of a 15 perfectly porous pipe are many. It has been found that pipes made in the herein described manner will carry water long distances when no great pressure is applied. It has also been found that the water may be 20 forced through the pores of the pipe by closing one end and applying pressure to the other end. The advantages in this feature are that water may be conveyed to an elevated storage reservoir during the wet season 25 through the pipes and distributed back over the soil through the same pipes during the dry season by closing the lower end thereof and applying sufficient pressure to force the water through the pores of the pipe. Further 30 advantages reside in the fact that the pipe may be made watertight in sections and left porous in sections whereby water may be conveyed over ground where no irrigation is needed or desired and forced through to the 35 land where it is wanted at one and the same time. Furthermore the pipes may be made 40 watertight in part longitudinally so that the bottom parts may prevent the escape of water while the upper parts may be left porous and permit the passage of water through the 45 pores by applied pressure. The porous pipe may be readily made watertight by immersion in a thin cement paste or solution as will be understood.

45 Having thus described my invention, it being understood that minor changes may be resorted to in its construction without departing from its scope and spirit, what I claim and desire to secure by Letters Patent 50 of the United States is:—

A tile and pipe form having in combination an outer casing comprising two cylindrical halves, a base board rest for said casing, complementary spaced apart lugs for the adjoining edges of said halves, rods for the adjoining edges passing through said lugs and into the base board, said base board having a large hole in concentric alignment with the rod holes, a pair of complementary substantially semi-cylindrical core members, a spreader member interposed between said core members the edge surfaces of the spreader having the same curvature and laying in the same cylindrical surface as the exterior 85 surfaces of the said substantially semi-cylindrical core members, said core and spreader members seated in said large hole and projecting exteriorly above said casing, wings for the upper portion of said spreader, guides on the upper exterior ends of the cylindrical casing members adapted to receive said wings, and fingers for the upper portion of the spreader member arranged to seat in holes in the tops of the core members.

In testimony whereof I affix my signature. 75  
CLARK W. HATFIELD.

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