United States Patent

McClenahan

[15] **3,701,172**

[45] **Oct. 31, 1972**

[54] **PLUMBING INSTALLATION JIG**

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[52] **U.S. Cl.**.....**4/252,** 4/191

[51] **Int. Cl.**.....**E03d 11/00**

[58] **Field of Search**.....4/1, 2, 3, 4, 5, 191, 252; 52/98, 99, 220

[56] **References Cited**

UNITED STATES PATENTS

3,129,437	4/1964	McClenahan	4/252
3,123,939	3/1964	Erickson	52/99
2,202,147	5/1940	Gerriets	52/99

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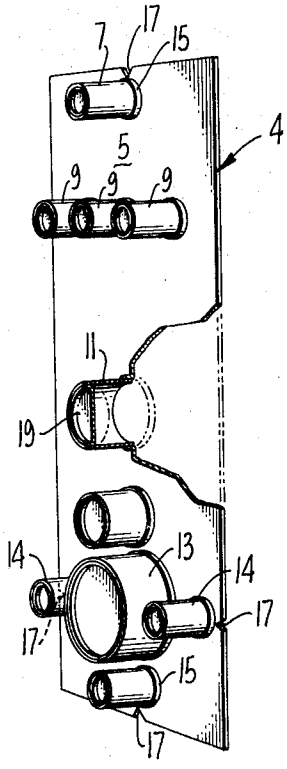
[57] **ABSTRACT**

A plumbing installation jig is provided for the rapid installation of plumbing fixtures which is adaptable for either poured concrete or Gunite walls. The device includes a metal plate having a plurality of sleeves thereon having the correct size and configuration for the fixture to be mounted.

3 Claims, 4 Drawing Figures



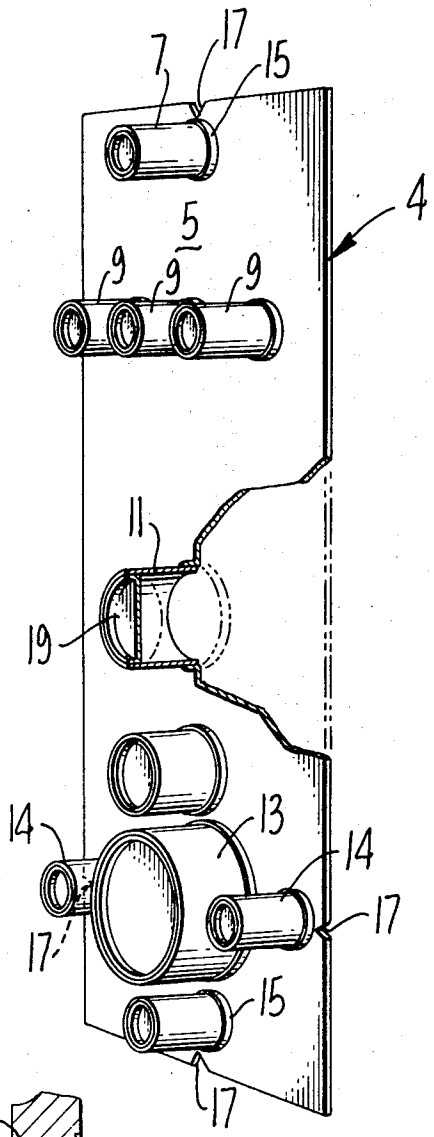


FIG. 1.

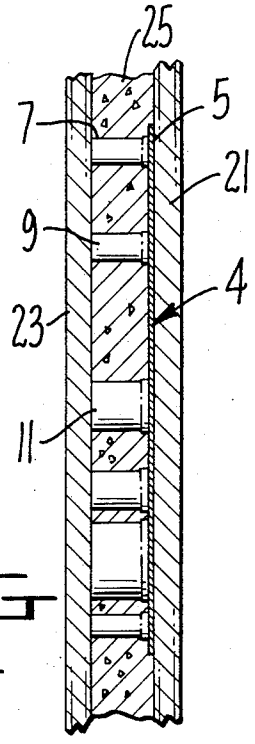


FIG. 2.

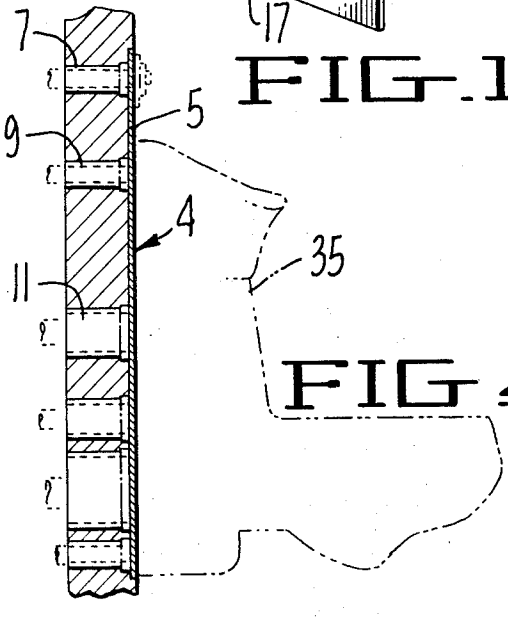


FIG. 4.

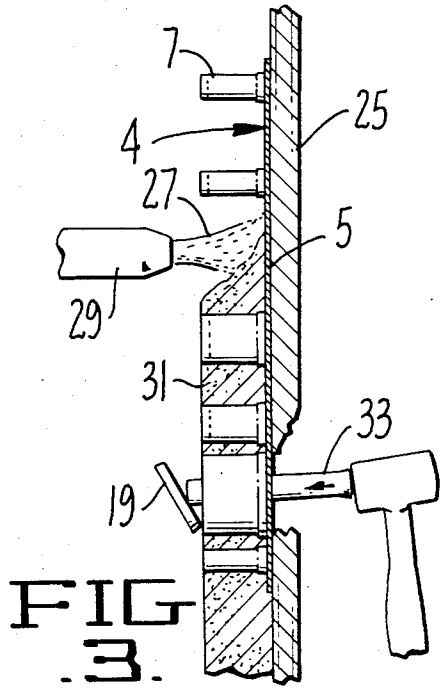


FIG. 3.

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PLUMBING INSTALLATION JIG

SUMMARY OF THE INVENTION

Plumbing installation jigs have previously been provided such as that claimed in my U.S. Pat. No. 3,129,437 of Apr. 21, 1964 wherein two metal plates are provided with tubes connecting the plates so that the device can be formed into a wall of poured concrete, thus accurately locating all of the various plumbing and mechanical connections and greatly cutting down on the amount of labor necessary for installing plumbing fixtures. Said device, as well as the device of the present invention, is particularly adapted for use in penal and similar institutions for the installation of tamper-proof fixtures such as that shown in my U.S. Pat. No. 2,860,348 but will be understood that the device of the present invention can be made in different configurations for a wide variety of plumbing fixtures.

Although the device of my prior U.S. Pat. No. 3,129,437 is highly successful, it employs two metal plates and it is difficult to adapt it to sprayed walls such as those made by the so-called Gunite process.

Thus the present invention is an improvement over my prior invention in that it employs less metal and is adapted for use in structures of concrete, made by not only the poured concrete process, but also the Gunite process.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a perspective view of a device embodying the invention shown partly in cut-away form.

FIG. **2** is a side sectional view showing the manner in which the device of the present invention is employed for poured concrete walls.

FIG. **3** is a sectional view similar to FIG. **2** showing the use of the present invention in a wall built up by the Gunite process.

FIG. **4** is a similar sectional view showing the use of the device of the present invention with a plumbing fixture such as that shown in my U.S. Pat. No. 2,860,348.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The jig of the present invention is generally designated **4** and includes a base plate **5** having a plurality of sleeves extending therefrom. In the embodiment shown, sleeve **7** is provided for a flush valve, sleeve **9** for inlet pipes and water valves, sleeve **11** for an inlet pipe for flushing water, sleeve **13** for a waste outlet pipe and so on. Sleeves **14** are provided for bolts used in fastening tamper-proof plumbing fixtures. It will be understood, of course, that these specific sleeves are designed for a specific plumbing fixture and that the sleeves would differ in number and size depending upon the particular fixture to be accommodated. The sleeves, as at **7** may be fastened to the base plate **5** by any desired means such as soldering, welding or the provision of an inturned metal collar **15**. The sleeves may be detachable from the collars **15** so that the jig may be stored and shipped in disassembled form. The sleeve connections can be made in any desired way and need not be water-tight except to the extent of keeping concrete out of the tube when a wall is being formed. Thus a friction fit between the sleeve and collar is adequate. Additionally, notches as at **17** may be provided at various locations on the base plate **5** for the accurate positioning of the jig.

Each of the sleeves has a knock-out covering **19** at its end opposite the base plate **5** to prevent the entrance of concrete when a wall is formed by the Gunite process. As will be later apparent, no such knock-out plug is necessary at the base plate end.

One method of employing the jig of the present invention is shown in FIG. **2**. Here the jig is employed in a situation where a wall is to be formed of poured concrete. In this method of utilization a first form **21** is put in place and the plumbing jig **4** of the present invention is then accurately located on the form **21** and is held in place with nails if the form **21** is wood or self-tapping sheet metal screws if the form is metal. Now the second form **23** is put in place and concrete poured into the form as at **25**. After the concrete is set, the forms **21** and **23** are removed, leaving the jig **4** in place. The knock-outs **19** can now be removed, leaving a concrete wall with the proper openings for all of the fittings necessary for the installation of the plumbing device as well as for any bolts which may be used to fasten the fixture to the wall.

Referring now to FIG. **3** another method of employing the jig is shown. Here the jig **4** is fastened to a form **25** and Gunite **27** is applied through a gun **29** to the form and to the jig, building up a surface which is level with the ends of the sleeves as at **31**. After the concrete has hardened, the form **25** is removed and the knock-outs, as at **19** pushed out using a suitable tool **33**. The fixture shown in dash dot lines at **35** may now be installed with a minimum amount of labor since all of the holes for the fixture, both for plumbing and mechanical connections, have been accurately formed in the concrete wall.

It will be apparent to those skilled in the art that many variations can be made in the exact structure shown without departing from the spirit of this invention. Although a specific form of jig has been shown for a certain plumbing fixture, it will be obvious that the arrangement and sizes of the sleeves will depend upon the fixture to be installed. The length of the sleeves will naturally be selected to conform with the desired thickness of the finished wall. In some instances the knock-out may be eliminated since if the jig is to be used for a poured concrete wall as is shown in FIG. **2**, the second form member **23** will effectively prevent entry of concrete into the tubes.

I claim:

1. A plumbing fixture jig for the rapid and accurate installation of plumbing fixtures in a concrete wall comprising in combination:

a. a metal plate roughly conforming in size to a plumbing fixture,

b. a plurality of openings in said plate, said openings corresponding in size and location to desired piping and fastening means for a plumbing fixture,

c. a plurality of sleeves extending from said openings, said sleeves being of a length equal to the desired thickness of a concrete wall to be formed on the jig, and

d. means on said plate for accurately locating and aligning said jig on a wall.

2. The structure of claim 1 wherein each of the sleeves has a knock-out plug therein at the end opposite the end to which the sleeve is fastened to the plate whereby said knock-out plugs prevent the entry of concrete during construction and can be removed to leave clear openings after the jig is in place and concrete has hardened.

3. A plumbing fixture jig as in claim 2, wherein said knock out plugs are cup-shaped and are fitted within the end of the sleeves.

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