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F. GERRIETS

2,270,286

EMPLACEMENT FORMER

Filed June 7, 1940

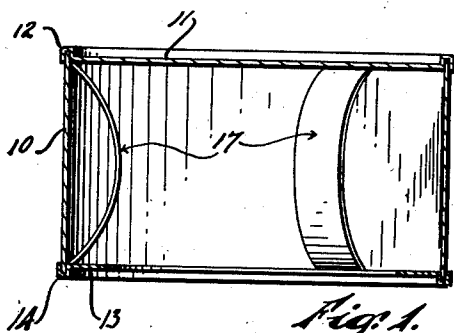


Fig. 1.

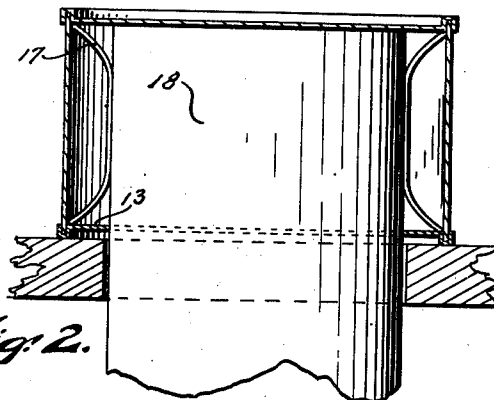


Fig. 2.

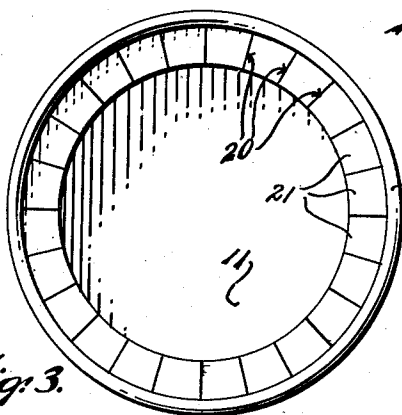


Fig. 3.

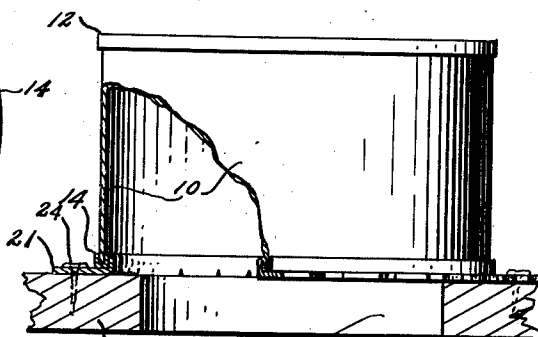


Fig. 4.

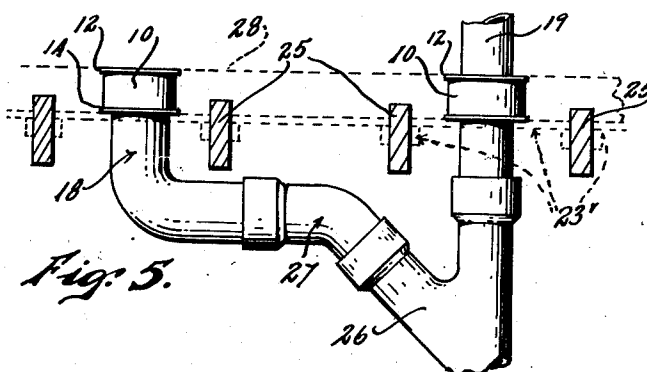


Fig. 5.

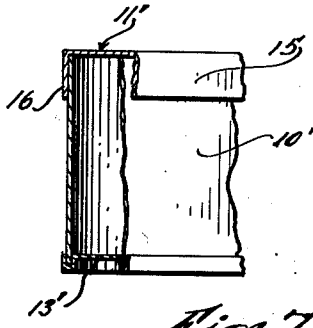
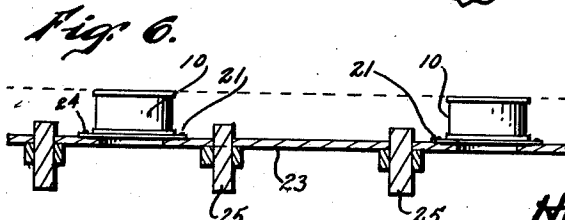


Fig. 6.



INVENTOR:
FRED GERRIETS,
BY:
Horace Woodward
ATTORNEY

UNITED STATES PATENT OFFICE

2,270,286

EMPLACEMENT FORMER

Fred Gerriets, Alexandria, Va., assignor to
Charles B. Broome, Washington, D. C.

Application June 7, 1940, Serial No. 339,373

1 Claim. (Cl. 72-0.5)

The invention relates to improvements in emplacement formers of the general character indicated in my Patent No. 2,202,147, issued May 28, 1940, and has for an object to effect a further simplification in the means for insuring that spaces will be reserved or maintained in a building structure to enable the emplacement of plumbing or other fixtures, appliances and other devices, so that such fixtures may be put in place after the completion of certain parts of the building, particularly walls and floors, without requiring parts of the completed walls, floors and other parts to be cut away in order to make the necessary space to receive parts of the fixtures which must be inserted therein.

The invention is particularly useful in plumbing installations, to provide a means whereby clearances around the roughed-in work may be preserved, as, for instance, so that concrete flooring or wall structures will not be built directly up against a pipe where a floor flange is to be engaged around the pipe end. This avoids the necessity of cutting a channel in concrete flooring or other flooring to receive such flange. It is an important aim of the invention to combine with this function and similar functions the advantages of a closure for the end of a pipe; and to permit such cover to be either removed, or cut open by reason of its being made of thin and easily cut sheet metal.

Another important aim is to present an article of this kind which may be produced at extremely low cost, so that it may be readily used in a large quantity by plumbers without involving excessive expense. The invention is particularly useful as a combined closure for pipe ends and an emplacement former or whereby clearance is insured around the pipe ends for the subsequent insertion and securement of fittings, couplings, or other connections and attachments, the emplacement former being adapted to be made in a wide range of sizes for application to pipes of various kinds and purposes, either for temporary or permanent closures or protectors.

A special aim of this invention is to present an attachment for the general uses herein mentioned, as well as those disclosed in my prior patent, which will be automatically adapted to pipes to snugly hold upon the same and accurately position the closer and emplacement former for either or more functions above mentioned, and which will be highly durable and rugged in structure, with a minimum liability of derangement, or faults by reason or imperfection

in manufacture, materials, or manner of use by inexperienced workmen.

Additional objects, advantages and features of invention reside in the construction, arrangement and combination of parts involved in the device and its method of use, as will be more readily understood from the following description and accompanying drawing, wherein

Figure 1 is a vertical sectional view through one of my devices, in its preferred form,

Figure 2 is a similar view of the device showing it applied to a pipe end over a floor form.

Figure 3 is a bottom view of the closer and former showing the bottom flange slitted for use as shown in Figure 4, which is a side view of the same device, partly in section, applied to a floor form.

Figure 5 is a view of a roughed-in job in a building which has been framed, but no flooring or floor form installed, showing how my device applied to the roughed-in job will insure that a floor cast as dotted will have proper clearance around the closet bend illustrated, and as well as around the soil pipe, in case of exposed plumbing passing through a concrete floor, insuring the soil pipe freedom from binding by the concrete floor which would interfere with expansion and contraction of the stack, saving the plumber from the necessity of cutting the pipe free from such concrete work in order to save the stack from strains due to unequal expansion and contraction of the stack and building structure.

Figure 6 is a section of a building which has been framed and a form provided for casting a concrete floor, on which a closet is to be set, showing how my invention is applicable for provision of proper openings in a concrete floor if it is desired to rough in a plumbing job after casting of the floors.

Figure 7 is a fragmentary elevation partly in section, showing a modification of the former-closer in which it is provided with a removable friction cap.

There is illustrated in Figure 1 an emplacement former comprising a case having a cylindrical wall portion 10, which may be produced in accordance with conventional can production practice upon the upper end of this wall there is attached a top or cover plate 11 of planiform shape, joined to the wall 10 by a conventional seam 12 of a simple type, which does not require soldering or special reinforcement. At the lower end of the wall 10 an annular horizontal flange 13 is attached, joined to the wall by means of a seam 14 which may be similar to the one 12, the

formation of this flange 13 as a piece separate from the wall 10 and its application as indicated being the more economical way to construct the can at present with available machinery and methods in the can industry, although the flange may be formed integral with the walls 10 if desired, when found practicable.

The can may be made entirely open at top and provided or not with a removable friction cover 15, as shown in Figure 7, the wall 10' in this view and the bottom flange 13' corresponding to the parts 10 and 13 first described. The cover 15 includes a cylindrical downwardly extending flange portion 16, adapted to snugly fit frictionally upon the exterior of the wall 10, and a top plate 11' which may be formed integrally with the flange 16 by die-stamping.

These cans may be made in various sizes, appropriate to the pipes or other fixtures and structures upon which they are to be used, a common form for use upon four-inch cast iron stack pipes and closet bends being 6 inches in diameter within the wall 10, and having a height over all of three and one half inches. The wall 10 may be made of greater height to correspond to the depth of concrete floors or walls through which the pipe is to extend, so that an opening may be formed entirely through the floor, or, the height of three and a half inches may be arbitrary, as in the case of closet bends since the floor flange for connecting a closet to the closet bend is secured to the end of the bend in less than that depth, in conventional practice. The top 11 of the device (and corresponding cover parts in other forms) is preferably made of a very thin soft iron, which may be readily cut with a knife, hatchet, or can opener, to facilitate access to a pipe end when fixtures are to be put in place. A pipe centering means is provided in the case, and in the present instance, this consists of three or more simple flat band springs 17, which are of such length that when bowed sufficiently to fit snugly at their ends against the cover or top wall 11 and the bottom flange 13, and against the wall 10, they are bowed inwardly sufficiently to extend at their middle part inwardly of the longitudinal geometrical projection of the inner edge of the flange 13. These springs are simply sprung into place to the desired number, and left without other securement, their frictional engagement against the surfaces of the wall 10 and plate 11 and flange 13 being sufficient to keep them in their places with a minimum liability of displacement. The flange 13 in a device of the size above mentioned projects from the wall 10 inwardly about three-quarters of an inch, thus affording an opening of four and one-half inches in diameter, which is slightly larger than the external diameter of the four-inch cast iron pipe. For smaller pipes the diameter is correspondingly reduced, to the extent that such pipe is smaller than the four-inch size, ordinarily, the flange 13 of the smaller device being of the same inward projection as in the larger form, and the height of the walls 10 being the same also, these proportions obtaining over a certain range of pipe sizes, but in still smaller sizes and for other types of connections to be applied to the pipe, the sizes of the case and parts thereof may be varied to suit the circumstances and the manner of use.

In the case of use of the device for affording a clearance around the soil stack through a concrete floor, the height of the wall 10 may correspond to the depth of the concrete floor, while the top may be cut away to allow the pipe to ex-

tend therethrough, as in Figure 5, or may be omitted altogether, in which form the device may be initially produced by the manufacturer for sale in that form, or the plumber using the article shown in Figure 1, may cut out the top as required, on the job, the ease with which the top may be cut making this a very short operation, requiring expenditure of but little effort and time.

In fitting the device of Figures 1 and 2 in place, after the closet bend has been fitted in place and joints and other connections with the stack properly leaded permanently, it is only necessary to take the device in one hand, present the opening within the flange 13 over the end of the pipe 18 as shown in Figure 2, and press the case downwardly thereon. The pipe enters freely through the opening in the flange 13, and soon engages the springs 17, sliding easily over these, so that they are pressed laterally outward toward the wall 10 and caused to take the partly flattened form shown in Figure 2; this holds the emplacement former and cover in position upon the pipe with great firmness and capable of withstanding severe shocks without being displaced and without permitting shifting of the device from its desired position.

In order to adapt the device to be held securely in this manner, the springs as at present used in a device of the size named, have been formed of clock-spring stock, three quarters of an inch wide and approximately one one-hundredth of an inch thick, and when put in place in the case as in Figure 1, a pressure of considerably over 30 pounds is necessary to deform them to the position shown in Figure 2. However, owing to the inclined surface of the spring presented to the end of the pipe as the emplacement former is thrust into position, the resolution of forces involved requires relatively moderate effort on the part of the workman in putting the device in place, or in removing it. However, the device does not require to be removed after being put in place upon a roughed-in job, and may remain in place while flooring, of either wood or concrete, or tile, is put into place, and built and fitted therearound, and until the finished top floor is completed, such as terrazzo or tile, rubber or linoleum.

While the device is shown as having a cylindrical wall 10, if fixtures of special form are to be put in place, in walls or floors, the wall 10 or its corresponding part may be rectangular or otherwise shaped, with corresponding modifications of the remaining parts of the device. In such uses the device may be found of great value in emplacement of electrical outlets in concrete walls, floors, ceilings, machine foundations and the like.

While the device in the majority of cases may be used as a plumbing job is roughed in, yet, as illustrated in Figure 5, or as shown in my prior patent, there may be times when it is found advantageous to put in the soil stack, closet bends or like fixtures after the concrete walls or floors have been cast, or other floors constructed, and in such case, my case device may be secured in place in the concrete form in such manner that when the floor is completed, an opening will be available therein for the introduction of the end of the closet bend, and for the passage of the stack, in such cases where necessary. In such case, the bottom flange 13 of the device illustrated in Figures 1 and 2, is cut with a multiplicity of radial slits 20, forming corresponding tongues 21 therebetween, and these tongues are then bent downwardly, laterally and outwardly, into a plane

as nearly as practicable at right angles to the longitudinal axis of the case, and when the floor 23 of the form in which the device is to be emplaced has been completed, with or without cutting an opening as at 22 the case is properly located on the floor 23 of the form and a suitable number of the tongues 21 are nailed to the top face of the floor 23 of the form, as shown in Figures 4 and 6. Short nails or tacks 24 will be ample to secure the device in place, as required. Where a stack is to pass through such floor a similar procedure is followed, as indicated at the right in Figure 6. After the floor has been cast in place, the top of the cases thus put in position may be cut away, leaving them open for access to the end of a closet bend inserted upwardly through the one at the left, in Figure 6, for instance, and to permit the insertion of a soil stack pipe section through the other at the right, in Figure 6, in which case the pipe portion will have the same relation to the cases as the corresponding pipe portions in Figure 5 have to the cases shown therein.

Referring to Figure 5 more particularly, the pipe stack 19 is shown as completed in a framed structure which includes floor joists 25, which are also indicated in Figure 6. From the stack 19 by means of a usual Y 26 and 30-degree bend 37, the closet bend 18 is erected in proper position to receive the outlet of a closet in relation to a floor which will subsequently be completed, as indicated by the dotted lines at 28. The floor form 23' indicated in dotted lines will be subsequently constructed upon the joists 25, in this view, and

when so constructed such floor form will have the appearance shown at 23 in Figure 6.

It will be readily understood that the job may be roughed in as shown in Figure 5 after the form floor has been constructed, as at 23 in Figure 6, at which time the case devices put in place will have the same appearance and positions as shown in Figure 5.

It will be understood that while I have described in specific detail a particular embodiment of the invention with some modifications, this is purely exemplary, and various modifications, changes in construction, form and relation of parts and substitution of equivalents may be made without departing from the spirit of the invention, as more particularly set forth in the appended claim.

I claim:

An emplacement former for the purposes described, consisting of a case having a side wall, a bottom flange thereon projecting a distance inwardly from the wall for the purposes described, and a top removable closure initially fixed on the side wall, a pipe centering device within the case consisting of a plurality of bowed springs having their ends set respectively against the flange and top wall immediately adjacent the side wall, said springs positioned to engage an inserted pipe in opposing relation to each other and having their central bowed parts extended initially inward beyond the geometrical longitudinal projection of the inner edge of said flange.

FRED GERRIETS.