(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 December 2000 (07.12.2000)

PCT

(10) International Publication Number
WO 00/73025 A2

(51) International Patent Classification[7]: B25B

(21) International Application Number: PCT/ZA00/00096

(22) International Filing Date: 16 May 2000 (16.05.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
99/3633 28 May 1999 (28.05.1999) ZA
99/5053 6 August 1999 (06.08.1999) ZA

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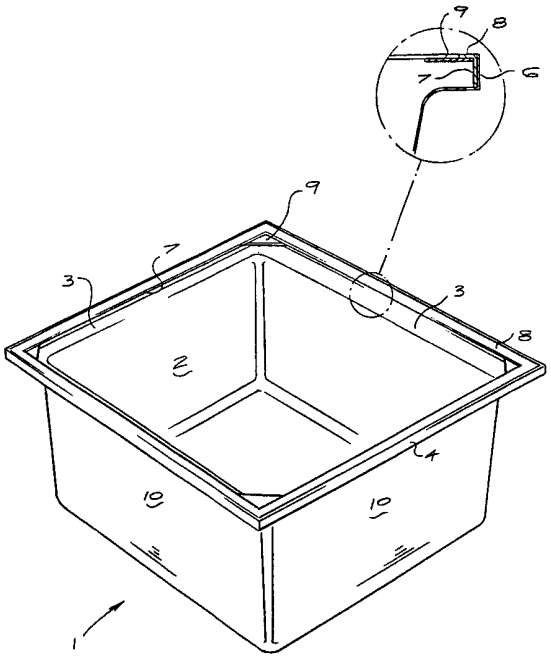
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR (utility model), KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *Without international search report and to be republished upon receipt of that report.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MOULDS FOR CEMENTITIOUS MATERIAL



(57) Abstract: The invention concerns a coffer for casting cementitious slabs which is deep drawn from suitable steel slab to form a recess with a reinforced peripheral flange extending from the edge of the recess. The corners are supported by triangular brackets.

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MOULDS FOR CEMENTITIOUS MATERIAL

FIELD OF THE INVENTION

This invention relates to moulds for the casting of cementitious material and more particularly to coffers used for the casting of coffer slabs.

BACKGROUND TO THE INVENTION

The use of coffers is widely known to provide slabs with strengthening ribs integral with and projecting from the underside of the slab. These ribs are often specially used for architectural aesthetic appearance as well as for their functionality.

The coffers which have been used for many years are either fabricated from steel plate or moulded from glass fibre reinforced resin. The former are necessarily heavy constructions which in practice have had to be fitted with specially formed corner plates in order to provide proper casting and finish to the slabs where these coffers are used. The coffers are thus expensive and heavy to manipulate.

The glass fibre reinforced resin coffers are readily subject to damage. This spoils the surface on which the cementitious material is cast with consequent degrading of the finish of the cast slab. Serious damage by cracking through the coffers necessitates the coffer being entirely replaced.

OBJECT OF THE INVENTION

It is the object of the present invention to provide a coffer which can be used in place of those currently widely used.

SUMMARY OF THE INVENTION

According to this invention there is provided a coffer for casting cementitious slabs which is deep drawn from suitable steel plate.

Further features of this invention provide for the edge of the recess to have a peripheral flange projecting away from the recess and for the flanges to terminate in a rib directed away from the recess.

The invention also provides for the flanges to be reinforced and to have gusset plates supporting the corners of the coffer.

Still further features of this invention provide for the flanges to be reinforced by folded angle sectioned members or by having the free ends of the ribs folded back upon itself.

Yet further features of this invention provide for the gusset plates to be triangular and of flat or folded plate.

The invention still further provides for the bottom of the recess to be perforated.

Embodiments of this invention are described below with reference to the accompanying drawings in which

FIG 1 is an oblique view of one form of coffer; and

FIG 2 an oblique view of an alternative embodiment.

Referring to Fig 1 the coffer (1) is made from mild steel plate which can conveniently be 1.2 mm thick. The material can be a normal drawing quality mild steel such as that supplied by Iscor as "SUPRA 180" and the grid size may be 900 mm by 825 mm with a depth of 325 mm for example.

Sheets of this material can be deep drawn in a heavy duty die set.

The coffer will have the recess (2) centrally located in a rectangular sheet of material (3) while a peripheral flange (4) projects away from the recess (2) of the coffer.

The edge (5) of the flange (3) is folded to also project away from the recess (2) to form a rib (6).

The flange (3) and rib (6) are supported by angled sectioned members (7) folded from similar metal and welded into position as shown.

At each corner the free flange (8) of the members (7) are braced by a gusset (9) in the form of a triangular plate.

In Fig 2 the coffer is illustrated as formed from a square sheet of metal.

Reinforcement of the flange (3) around the recess is effected by having the free end of the rib (6) folded back upon itself.

Each corner of the coffer is strengthened against damage by a triangular gusset in the form of a bracket (9). The reinforcing bracket (9) is folded from steel plate (as indicated in the insert in the drawing) and subsequently welded into position.

The side walls (10) of the recess (2) can also be reinforced with either permanent braces welded into place or by braces which may be packed into place to provide the desired support. The braces will preferably support a substantial area of the inner wall of the recess. One advantage of the removable support is that the walls can be allowed to flex once the cementitious mix with which the coffers are used has set. This will facilitate stripping of the coffers.

Centrally of the base of the recess (2) will be an aperture through the material. This is provided to enable air under pressure to be blown into the recess (2) in the event that the coffers are for any reason difficult to remove.

It will be appreciated that the embodiments above described can be varied in detail without departing from the scope of this invention. Of course the coffers can vary in size and depth to meet particular requirements.

The coffer has been found effective in use and inadvertent damage to the side of the coffer simple to repair. The cost saving in the manufacture of the moulds has proved to be considerable.

CLAIMS

1. A coffer for casting cementitious slabs which is deep drawn from suitable steel plate.

2. A coffer as claimed in claim 1 in which a peripheral flange is provided around the edge of a recess adapted to form the coffer, the flange terminating in a rib bent to project away from the recess.

3. A coffer as claimed in claim 1 or 2 in which the flange is reinforced and the corners supported by a triangular bracket.

4. A coffer as claimed in claim 3 in which the reinforcing is provided by angle sectional members welded against the ribs.

5. A coffer as claimed in claim 3 in which the reinforcing is provided by having the free end of the rib folded back upon itself.

6. A coffer as claimed in any one of claims 3 to 5 in which the bracket is a flat plate.

7. A coffer as claimed in any one of claims 3 to 5 in which the bracket is a flat plate with a folded peripheral flange.

8. A coffer as claimed in any one of the claims 3 to 7 in which the reinforcing member and/or the bracket are welded in position.

9. A coffer as claimed in any one of the preceding claims in which the side walls of the recess are reinforced.

10. A coffer as claimed in any one of the preceding claims in which the bottom of the recess is perforated.

11. A coffer substantially as described with reference to Fig 1 or Fig 2 of the accompanying drawings.

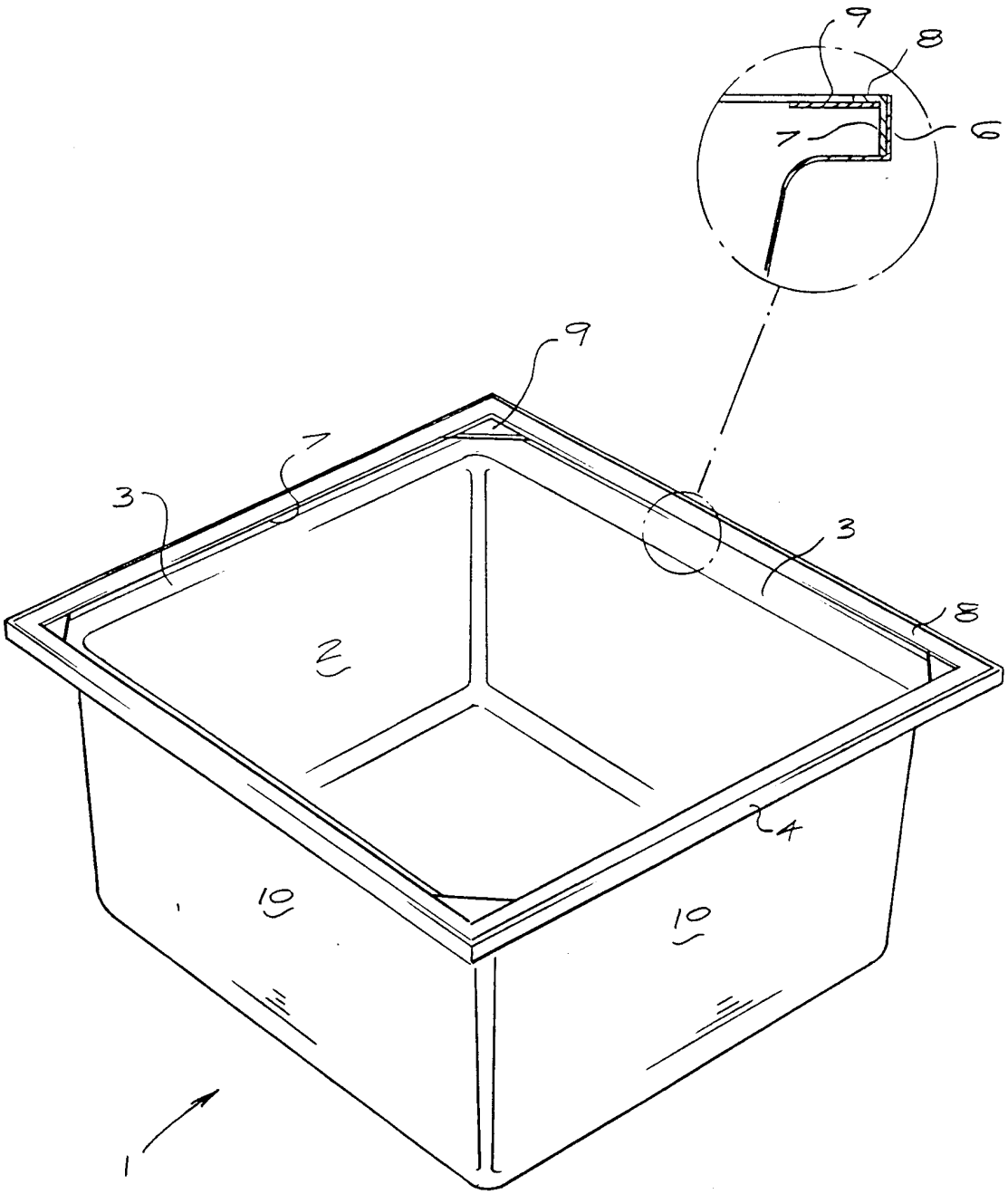


FIG 1

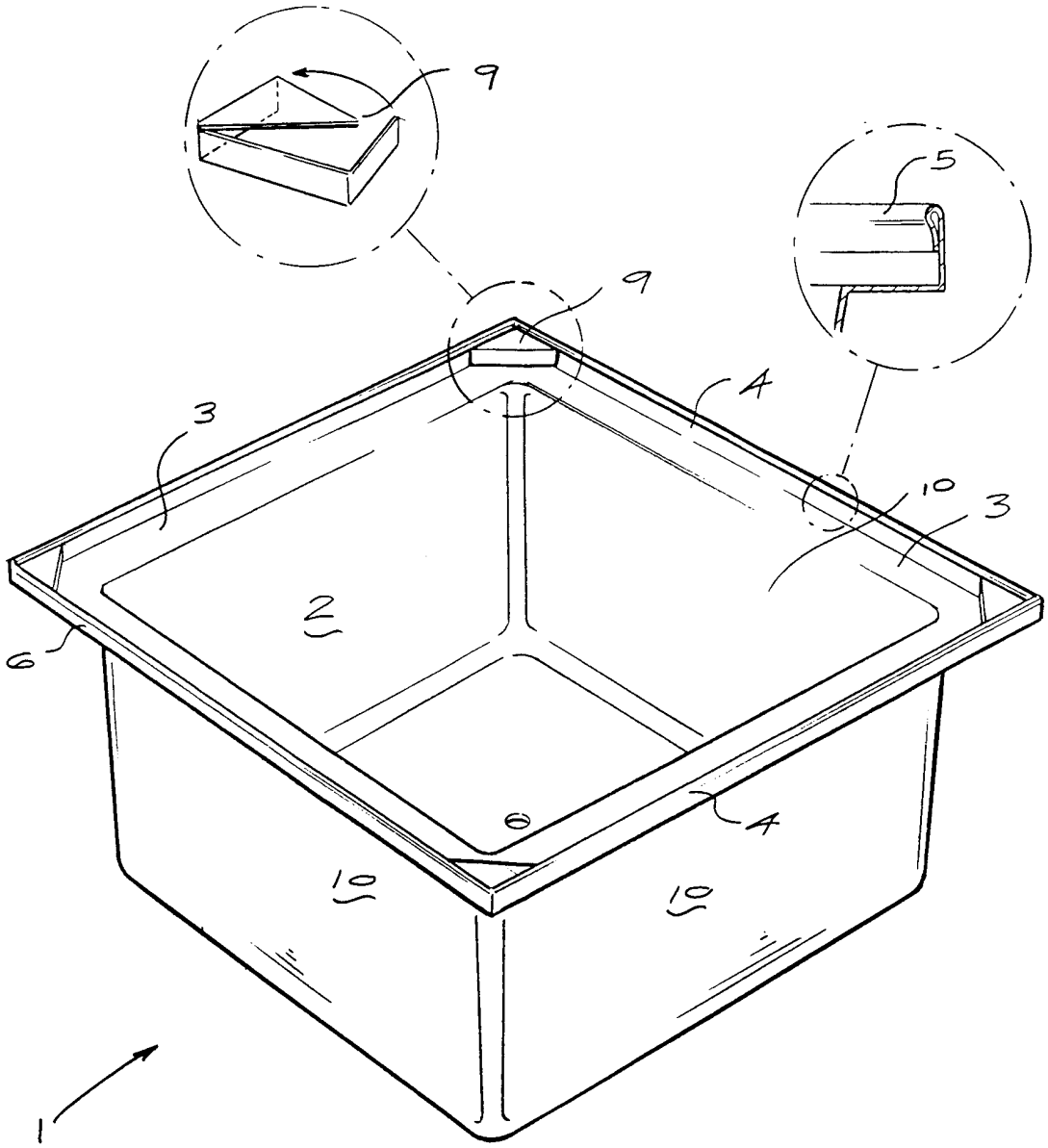


FIG 2