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(54) **Form for casting pillars**

(57) A form for casting pillars, of the type for which the assembly of two identical forms (10, 11) joined at an edge is provided by means of a threaded pin (12) which passes through a lateral upright (14) of a first form (10) with which it is associated and is designed to be inserted in a preset hole (15) of a series of aligned holes formed in the facing containment panel (16) and in one of the cross-members (17) for its support of a second form (11); the pin (12) is pulled by means of a nut plate (13) which is screwed to the threaded end portion (12a) of the pin (12) in order to lock the panel (16) of the second form (11) against the lateral upright (14) of the first form (10). The pin (12) is arranged within a cross-member (19) of

the supporting frame of the containment panel (18), the cross-member (19) being constituted by a profile whose cross-section is shaped so as to prevent the rotation therein of the head (20) of the pin (12), the pin being free to perform a translational motion within the channel (21) of the profile in the direction formed by its axis, between a locking position, screwed onto the plate (13) and with the head (20) in abutment against the lateral upright (14) of the first form (10), and an inactive position, in which the threaded end (12b) of the pin (12) lies inside the upright (14), while the head (20) rests against an extraction-preventing abutment (22) provided within the channel (21) of the profile.

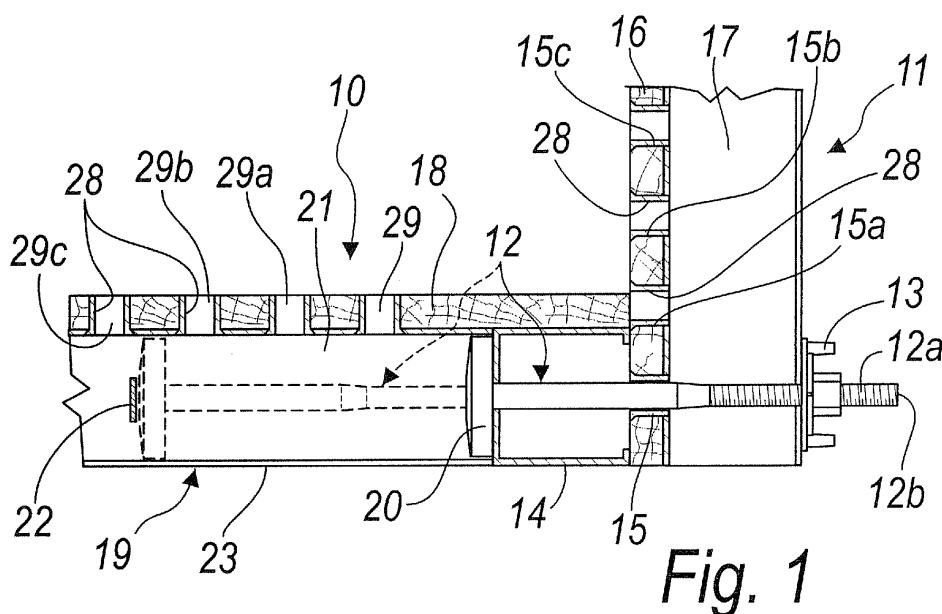


Fig. 1

Description

[0001] The present invention relates to a form for casting pillars.

[0002] Forms are currently known of the type for which the assembly of two identical or similar forms joined at an edge is provided by means of a threaded pin, which is associated with a first form and is designed to be inserted in a preset hole of a series of aligned holes formed on the facing second form, and pulled by means of a nut plate which is screwed to the threaded end portion of the pin.

[0003] Although these forms are known and widespread for their qualities of quick assembly, they have aspects which can be improved.

[0004] One of the most important is linked to the operation for screwing the pin to the nut plate; this operation requires, once the pin has been inserted in the corresponding holes, keeping stationary, by means of a hex key, the head of the pin which abuts on the internal face of a lateral upright of the first form, and screwing the plate in order to lock the second form against the upright of the first one.

[0005] This operation can be performed by a single operator, who is required to use both hands, and therefore with a certain inconvenience and slowness, or by two operators, who can perform the same operation more swiftly, but must indeed concentrate both on the same operation, one of the two taking away time which could be assigned more advantageously to other building yard activities.

[0006] Moreover, the pin, once unscrewed from the nut plate, must be removed and stored separately, and has to be repositioned every time the forms are reassembled, with a consequent waste of time as well as of space in storage.

[0007] The aim of the present invention is to provide a form for casting pillars which is capable of obviating the drawbacks observed in known types of form.

[0008] Within this aim, an object of the present invention is to provide a form for pillars which can be assembled easily to another identical form by a single operator and at least as quickly as what can be achieved with known similar forms.

[0009] Another object of the present invention is to provide a form in which the pin for fixing a second identical form can be positioned quickly and easily.

[0010] Another object of the present invention is to provide a form for casting pillars which can be manufactured cheaply with known systems and technologies.

[0011] This aim and these and other objects, which will become better apparent hereinafter, are achieved by a form for casting pillars, of the type for which the assembly of two identical forms joined at an edge is provided by means of a threaded pin which passes through a lateral upright of a first form with which it is associated and is designed to be inserted in a preset hole of a series of aligned holes formed in the facing containment panel and

in one of the cross-members for its support of a second form, said pin being pulled by means of a nut plate which is screwed to the threaded end portion of said pin in order to lock the panel of the second form against the lateral upright of the first form, said form being characterized in that said pin is arranged within a cross-member of the supporting frame of the containment panel, said cross-member being constituted by a profile whose cross-section is shaped so as to prevent the rotation therein of the head of the pin, said head being free to perform a translational motion within the channel of the profile in the direction formed by its axis between a locking position, screwed onto the plate and with the head in abutment against the upright of the first form, and an inactive position, which is determined by an extraction-preventing abutment provided within the channel of the profile, wherein the threaded end of the pin lies within the upright.

[0012] Further characteristics and advantages of the invention will become better apparent from the following detailed description of a preferred but not exclusive embodiment thereof, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a sectional top view of a form according to the invention, engaged with another identical form; Figure 2 is a perspective view of what is shown in Figure 1;

Figure 3 is an exploded view of the form according to the invention.

[0013] With reference to the figures, a form for casting pillars according to the invention is generally designated by the reference numeral 10.

[0014] The form 10 is of the type for which the assembly of two identical forms, a first one 10 and a second one 11, which are joined at an edge, is provided by means of a threaded pin 12 and a nut plate 13.

[0015] The pin 12 passes through a lateral upright 14 of the first form 10 with which it is associated, and is designed to be inserted in a preset hole 15 of a series of aligned holes 15a, 15b and so forth, which are formed on the facing containment panel 16, and in one of the cross-members 17 for its support of the second form 11.

[0016] As mentioned, the pin 12 is pulled by means of the nut plate 13 which is screwed to a threaded end portion 12a of the pin 12 in order to lock the panel 16 of the second form 11 against the lateral upright 14 of the first form 10.

[0017] The first form 10 in turn is also provided with a containment panel 18.

[0018] The pin 12 of the first form 10 is arranged inside a cross-member 19, which, together with the upright 14, is part of the supporting frame of the containment panel 18, the cross-member 19 being constituted by a profile whose cross-section is contoured so as to prevent the rotation of the head 20 of the pin 12 therein.

[0019] The pin is free to perform a translational motion within a channel 21 of the profile in the direction defined

by its axis, between a locking position, screwed to the plate 13 and with the head 20 in abutment against the upright 14 of the first form 10, and an inactive position, determined by an extraction-preventing abutment 22 provided within the channel 21 of the profile; in this inactive position, the threaded end 12b of the pin 12 lies within the upright 14.

[0020] In the embodiment of the invention described here by way of non-limiting example thereof, the cross-member 19 is constituted by a profiled element which has a substantially C-shaped cross-section.

[0021] The head 20 of the pin 12 is shaped like a quadrilateral and substantially complementarily with respect to the transverse cross-section of the C-shaped profile which constitutes the cross-member 19.

[0022] In this manner, the channel 21 of the C-shaped profile prevents the rotation of the head 20 and therefore of the pin 12.

[0023] The extraction-preventing abutment 22 is constituted by an insert to be inserted transversely with respect to the cross-member 19 in a corresponding slot 27 which is opened thereon.

[0024] The insert is provided with a wing 22a for snap insertion in the slot 27.

[0025] The first form 10, like the second form 11, is provided with holes 29, 29a and so forth which pass through the containment panel 18 and the cross-member 19, in the same manner in which the holes 15, 15a and so forth pass through the panel 16 of the second form 11 and the cross-member 17; the holes 29, 29a and so forth are designed for the passage of a pin of an associated third identical form, which cooperates so as to form the contour for the casting to provide for example a pillar.

[0026] The holes 15, 15a and so forth for the pin 12, as well as the holes 29, 29a and so forth, each have a centering bush 28.

[0027] The bushes 28 are made of plastics, preferably Teflon or nylon.

[0028] In order to assemble the first form 10 to the second form 11, operation is as follows.

[0029] The upright 14 of the first form 10 is positioned against the panel 16 of the second form 11, at one of the holes 15, 15a and so forth, depending on the dimensions selected for the pillar to be provided; the head 20 of the pin 12 is pushed manually so that it enters the chosen hole, for example the first hole 15, until its threaded portion 12a exits from the cross-member 17 and is available for screwing the nut plate 13.

[0030] In order to separate the two forms 10 and 11, it is sufficient to unscrew the plate 13 and push the pin 12 so that it retracts into the channel 21 of the profile of the cross-member 19; the pin slides within the channel 21 until it stops against the abutment 22; in this position, the end 12b of the pin 12 is still inside the upright 14 and is available for a new immediate use.

[0031] In practice it has been found that the invention thus described solves the problems noted in known types of form.

[0032] In particular, the present invention provides a form for pillars which can be assembled easily with another identical form by a single operator and just as quickly as can be achieved with known similar forms; this is allowed by the rotation-preventing cooperation of the quadrangular head 20 of the pin 12 with the flaps 24 of the C-shaped profile, but also with the rest of the cross-section of the profile, thanks to the cooperation of which the head 20 does not rotate when the plate 13 is screwed to the pin 12; this simplifies the screwing operation, which can be managed easily by a single operator instead of two.

[0033] Further, the present invention provides a form in which the pin for fixing to a second identical form can be positioned rapidly and easily, since it is never extracted fully from the lateral upright 14 of the form 10 to which it belongs and is therefore always available for use, since it is sufficient to push it by its head 20 in order to insert it in a chosen hole of the second form, available for screwing with the nut plate 13.

[0034] Moreover, the present invention provides a form for casting pillars which can be manufactured cheaply with known systems and technologies.

[0035] In practice, the materials employed, so long as they are compatible with the specific use, as well as the dimensions, may be any according to requirements and to the state of the art.

[0036] The disclosures in Italian Patent Application No. PD2007A000037 from which this application claims priority are incorporated herein by reference.

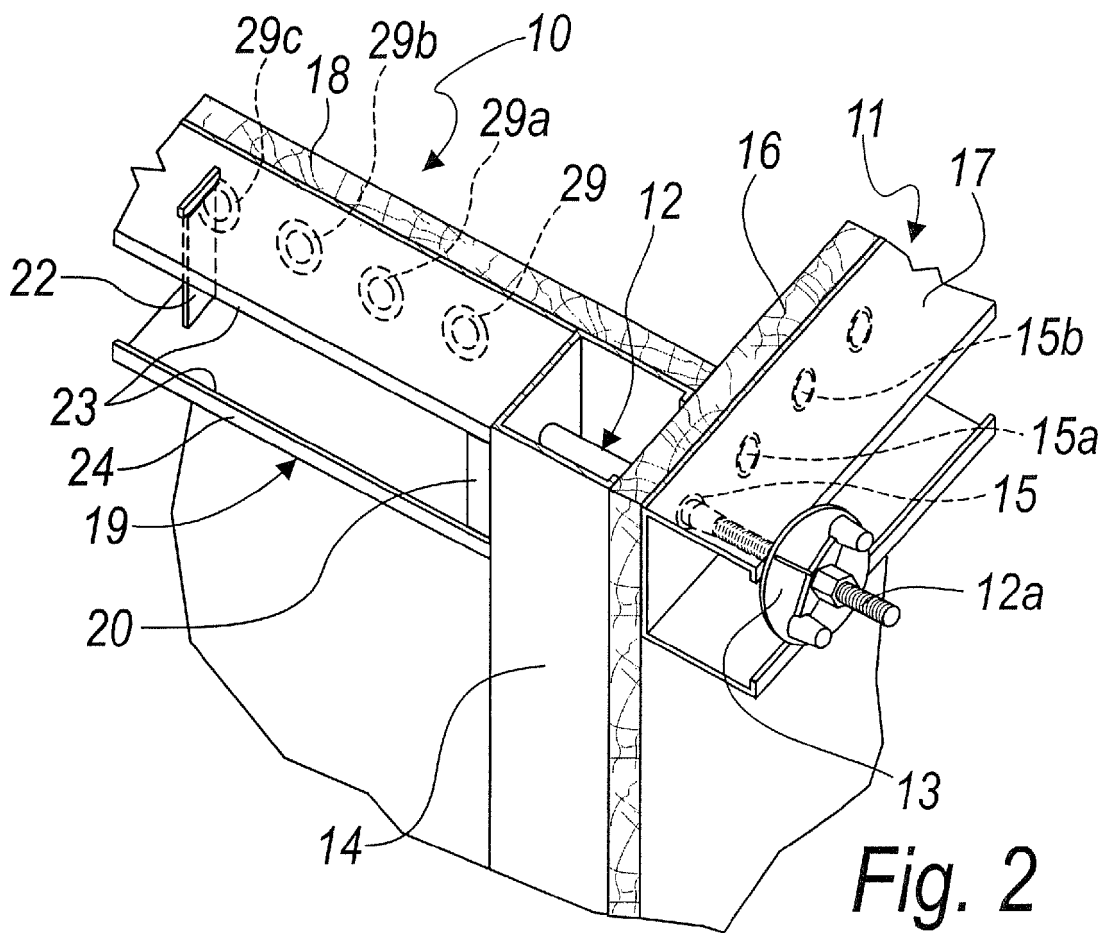
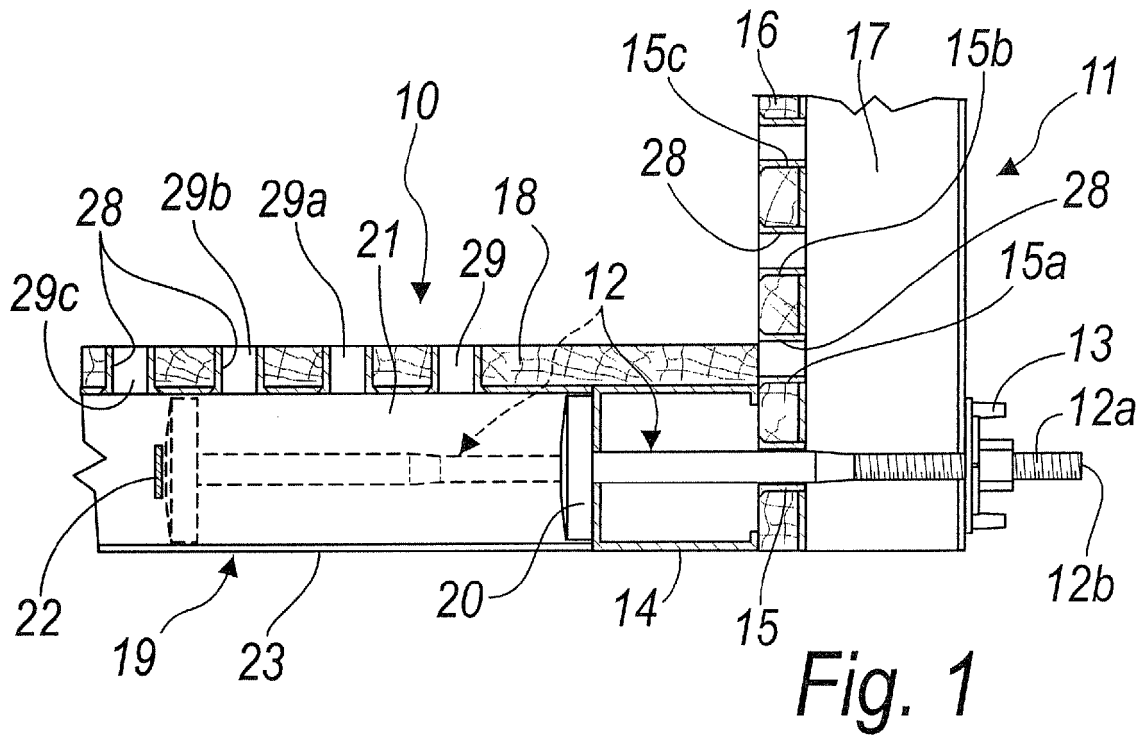
[0037] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

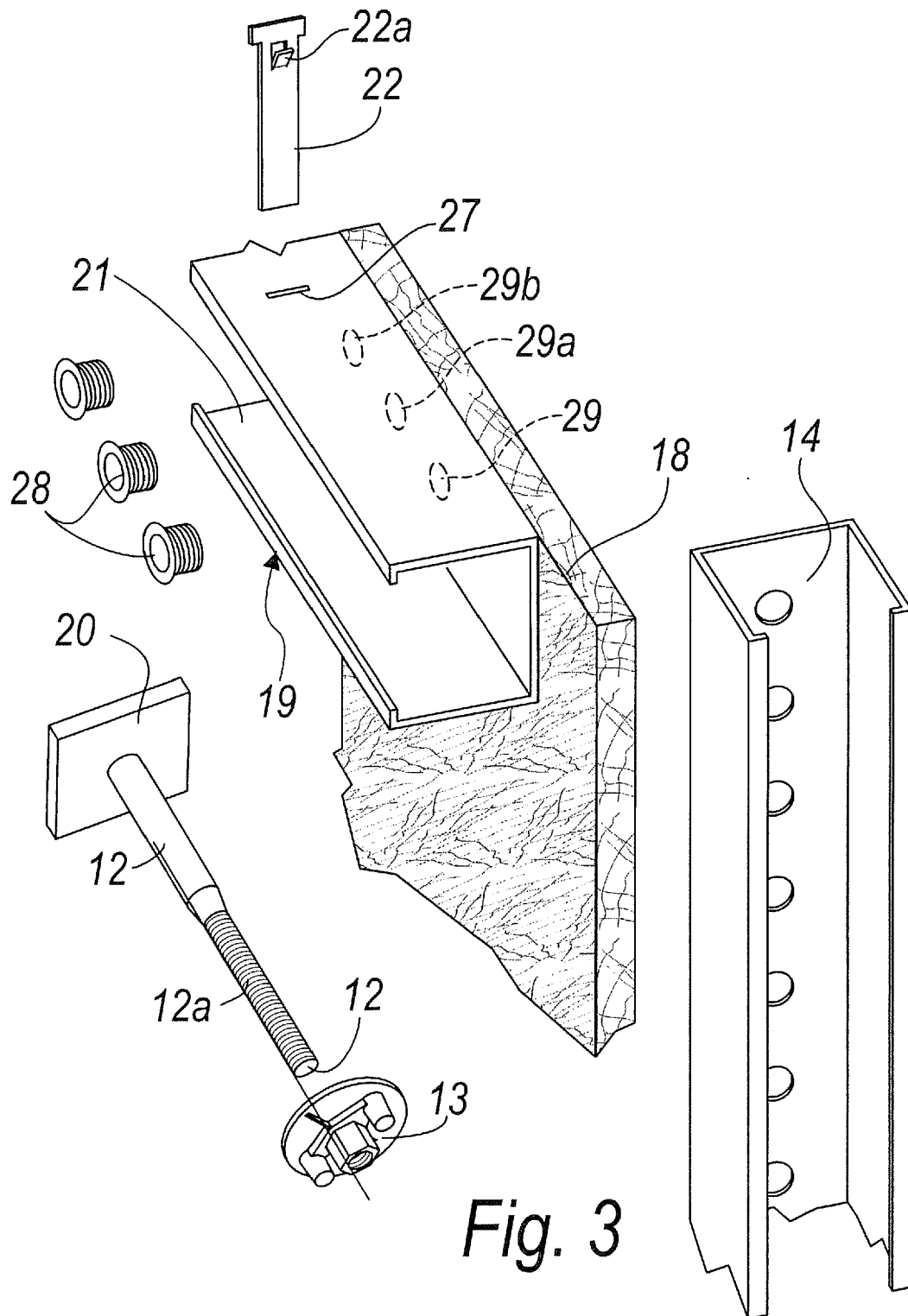
Claims

1. A form for casting pillars, of the type for which the assembly of two identical forms (10, 11) joined at an edge is provided by means of a threaded pin (12) which passes through a lateral upright (14) of a first form (10) with which it is associated and is designed to be inserted in a preset hole (15) of a series of aligned holes (15, 15a, 15b, 15c) formed in the facing containment panel (16) and in one of the cross-members (17) for its support of a second form (11), said pin (12) being pulled by means of a nut plate (13) which is screwed to the threaded end portion (12a) of said pin (12) in order to lock the panel (16) of the second form (11) against the lateral upright (14) of the first form (10), said form being **characterized in that** said pin (12) is arranged within a cross-member (19) of the supporting frame of the containment panel (18), said cross-member (19) being constituted by a

profile whose cross-section is shaped so as to prevent the rotation therein of the head (20) of the pin (12), said pin being free to perform a translational motion within the channel (21) of the profile in the direction formed by its axis, between a locking position, screwed onto the plate (13) and with the head (20) in abutment against the lateral upright (14) of the first form (10), and an inactive position, in which the threaded end (12b) of the pin (12) lies inside the upright (14), while the head (20) rests against an extraction-preventing abutment (22) provided within the channel (21) of the profile.

2. The form according to claim 1, **characterized in that** said cross-member (19) is constituted by a profile which has a substantially C-shaped cross-section, the head (20) of the pin (12) being shaped complementarily with respect to said cross-section of the cross-member (19).
3. The form according to one or more of the preceding claims, **characterized in that** said extraction-preventing abutment (22) is constituted by an insert to be inserted transversely with respect to the cross-member (19) in a corresponding slot (27) which is opened thereon, said insert being provided with at least one wing (22a) for snap insertion in the slot (27).
4. The form according to one or more of the preceding claims, **characterized in that** each one of the holes (15, 15a, 15b, 15c, 29, 29a, 29b, 29c) for the pin (12) has a centering bush (28).
5. The form according to the preceding claim, **characterized in that** said bushes (28) are made of plastics, preferably Teflon or nylon.





REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- IT PD2007 A [0036]
- IT 000037 A [0036]