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(54) Casting mold for a concrete column or beam

Giessform für eine Säule oder einen Balken aus Beton

Moule de coulage pour une colonne ou une poutre en béton

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Description

The present invention relates to a casting mold for a concrete column or beam, the mold being made up of either a horizontally oriented elongate trough having a bottom and side walls (see e.g. FR-A-578 907), or of a vertically oriented elongate tubular mantle.

Owing to the weight of cast concrete elements, their handling has always caused difficulties in their further treatment after the casting. Cast elements in general require after-treatment, such as sawing, grinding, and even polishing. The object of the invention is, by means of a casting mold of a new type, to facilitate the after-treatment of a concrete element. A mold according to the invention is characterized in that the ends of the mold are closed by means of end flanges having the shape of the cross section of the mold, through which end flanges there is installed a jig tube with the help of which the after-treatments of the cast column or beam can be carried out in different devices, such as sawing, grinding, and polishing devices. After the hardening of a cast element, for example, the element can be lifted and transferred to the desired after-treatment site by means of a gantry crane. At the vertical-grinding site, the lower end of the jig tube will engage the rotating or angular-turning axle, and its upper end the bearing-locking device, whereupon the grinding device can start working immediately, and the grinding will be minimized owing to the good centering.

The horizontal-grinding site has corresponding coupling devices with which the jig mates. At the horizontal-grinding site an element can first be sawn into its shape, for example, polygonal or conical columns. By means of the jig and the angular-turning device, a precise and regular shape will be achieved. After the sawing, a grinding device subject to the same control will polish the surfaces without separate setting. After the completion of the element, it is easy to remove the jig tube by detaching the end flanges, whereafter the jig tube can be pulled out. The completed element thus has a hole in the center, which can be made use of in joints and pipe installations. The advantage of the invention is at its greatest in the manufacture of a round column, since with the help of the jig and the rotating axle the element to be ground can be made to rotate under reliable control.

The invention is described below with the help of examples, with reference to the accompanying drawings, in which

Figure 1 depicts the reinforcement of a concrete element, equipped with a jig tube,
 Figures 2-5 depict various shapes of end flanges,
 Figures 6-7 depict the concrete-element reinforcement bars, as seen from the end,
 Figure 8 depicts the reinforcement of a concrete element, installed in a horizontal mold and equipped with a jig tube and end flanges,
 Figure 9 depicts the same as Figure 8, but as seen from the end,

Figure 10 depicts a vertical mold before the casting of concrete and the installation of the second end flange, and

Figure 11 depicts a section through XI-XI in Figure 10.

A casting mold for a concrete column or beam is made up of a trough, shown in a horizontal orientation in Figures 8 and 9, having a bottom 1 and side walls 2. Through the end flanges 3 there is installed a jig tube 4, with the help of which the further treatment of a cast element can be carried out in sawing, grinding, and polishing devices.

In Figure 10, the casting mold is made up of a vertically oriented elongate tubular mantle 5, which can be opened by means of the joint 6 shown in Figure 11. The jig tube 4 is shaped so that it fits in all grinding and sawing devices for further treatment. By means of metal flanges 7 adjacent to the end flanges 3, a blank is tightened to the jig tube 4. The blank is a metal sheet tube 8 having the length of the element and fitting over the jig tube 4. The steel reinforcement 9 of the element is fastened to the metal sheet tube 8 by means of spacer-reinforcement bars 10.

The jig tube 4 need not necessarily be one elongate rod passing through the entire element; it can just as well be made up of two lengths of tubing, located at the ends of the elements.

Claims

1. A casting mold for a concrete column or beam, made up either of a horizontally oriented elongate trough having a bottom (1) and side walls (2) or of a vertically oriented elongate tubular mantle (5), **characterized** in that the ends of the mold are closed by means of end flanges (3) having the shape of the cross section of the mold, through which there is installed a jig tube (4) with the help of which the cast column or beam can be treated further in various devices such as sawing, grinding, and polishing devices.

Patentansprüche

1. Gießform für eine Betonsäule oder einen Betonbalken, aus einem horizontal angeordneten langen Trog mit einem Boden (1) und mit Seitenwänden (2) oder aus einer vertikal angeordneten langen hülsenförmigen Mantelform (5) aufgebaut, dadurch gekennzeichnet, daß die Enden der Gießform durch Endflansche (3) abgesperrt sind, die die Gestalt des Querschnittes der Gießform haben, und durch welche eine Hilfsvorrichtungshülse (4) hindurchgeführt ist, mit deren Hilfe die gegossene Säule oder der gegossene Balken in verschiedenen Vorrichtungen wie Säge-, Schleif- und Polier Vorrichtungen weiterbehandelt werden kann.

Revendications

1. Moule de coulée pour colonne ou poutre de béton, constitué soit d'un bac allongé, orienté horizontalement, comportant un fond (1) et des parois latérales (2), soit d'une gaine tubulaire allongée (5), orientée verticalement, caractérisé par le fait que les extrémités du moule sont fermées au moyen de flasques d'extrémité (3) ayant la forme de la section transversale du moule, à travers lesquels est placé un tube de montage (4) à l'aide duquel la colonne ou la poutre coulée peut être soumise à une opération supplémentaire dans divers dispositifs, tels que des dispositifs de sciage, de meulage et de polissage.

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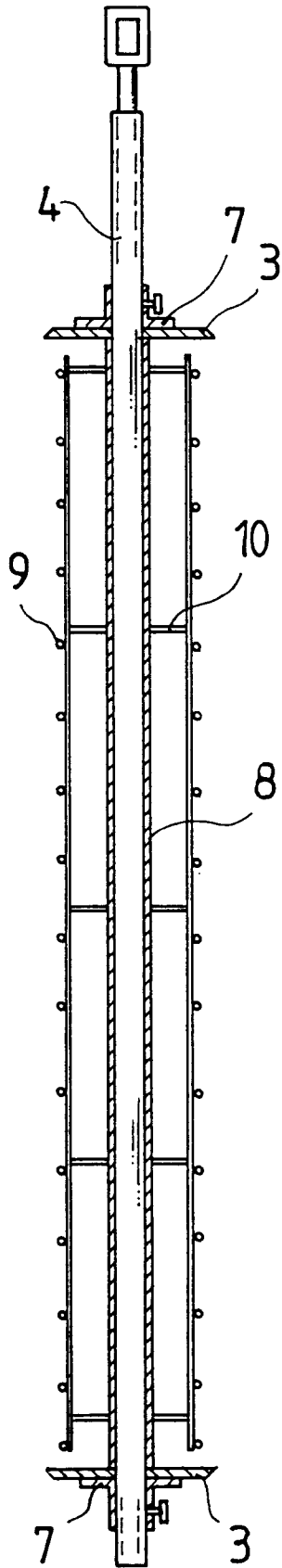


Fig.1

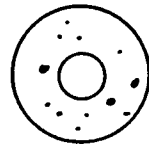


Fig.2

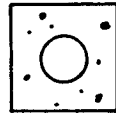


Fig.3

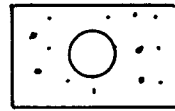


Fig.4

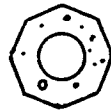


Fig.5

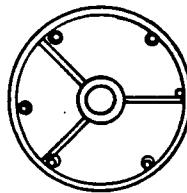


Fig.6

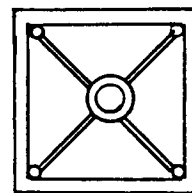


Fig.7

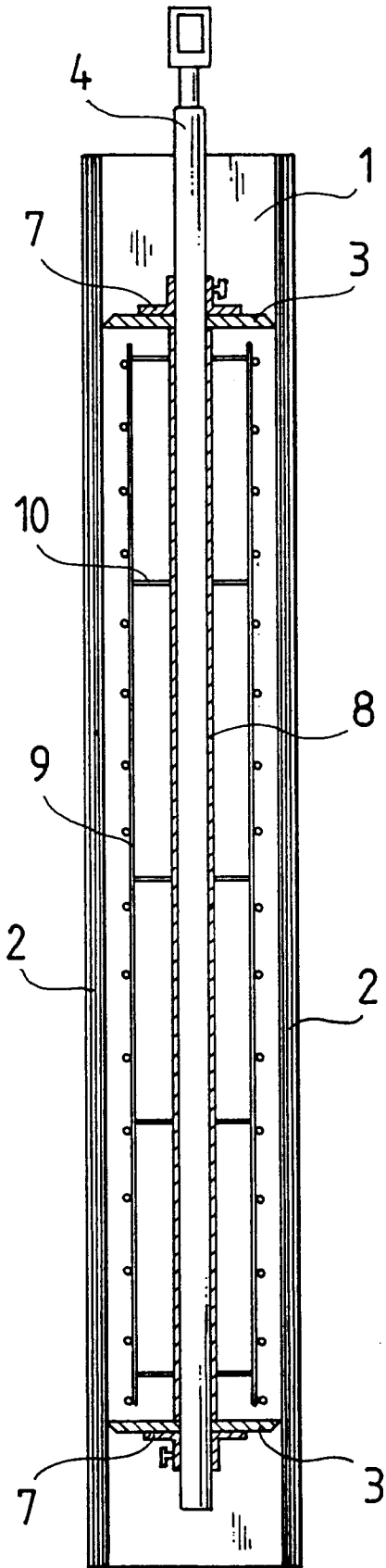


Fig. 8

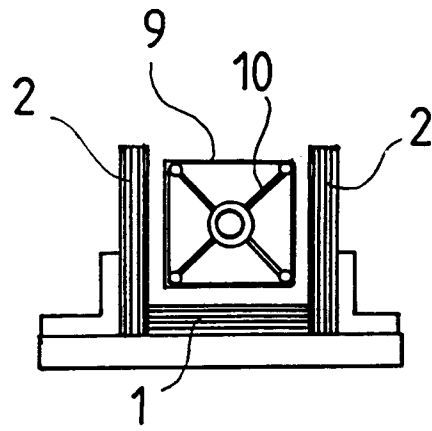


Fig. 9

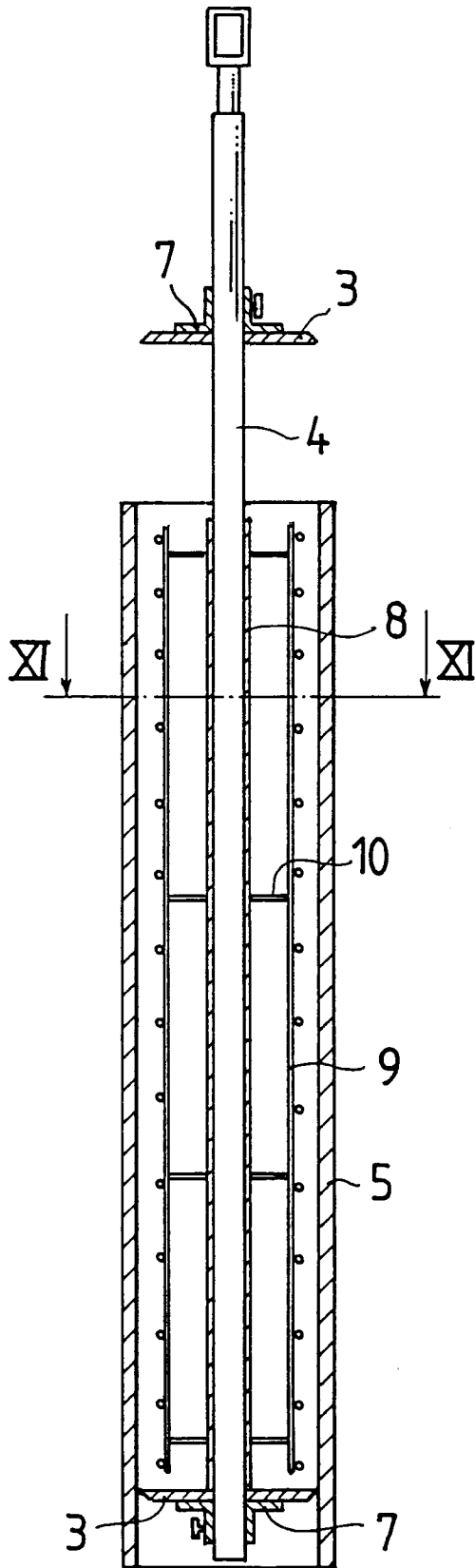


Fig. 10

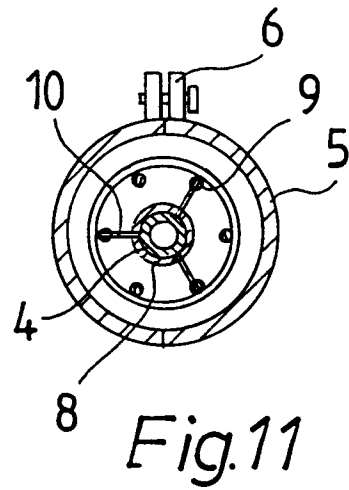


Fig. 11