

No. 867,541.

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F. WALENTA.
PRODUCTION OF CASTING PATTERNS.
APPLICATION FILED MAR. 29, 1907.

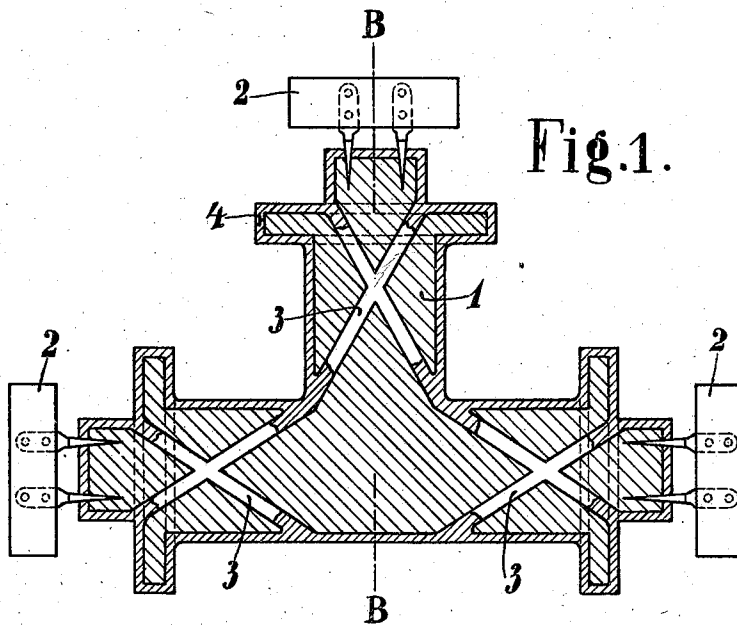


Fig. 1.

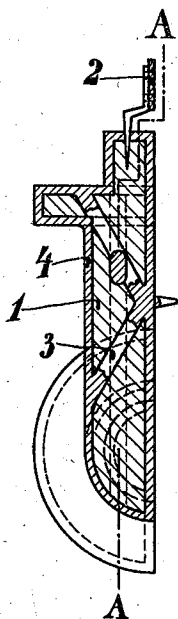


Fig. 2.

Witnesses

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FRANZ VALENTA, OF BELLINZONA, SWITZERLAND.

PRODUCTION OF CASTING-PATTERNS.

No. 867,541.

Specification of Letters Patent.

Patented Oct. 1, 1907.

Application filed March 29, 1907. Serial No. 365,272.

To all whom it may concern:

Be it known that I, FRANZ VALENTA, a subject of the Austrian Emperor, residing at Bellinzona, Switzerland, have invented certain new and useful Improvements in the Production of Casting-Patterns, of which the following is a specification.

This invention relates to a process for the production of casting patterns consisting of a metal envelop and a wooden core.

10 In order that my invention may be more readily understood, reference is had to the accompanying sheet of drawings in which:—

Figure 1 is a longitudinal section of a pattern made according to my invention, taken through the line
15 A—A of Fig. 2, which is a vertical section through the line B—B of Fig. 1.

The manner of producing the casting pattern is as follows:—A temporary model 1 is prepared from cheap, soft wood, corresponding to the exact dimensions of the
20 casting to be obtained. This model together with the supporting irons 2, which have been previously inserted in the model 1 in suitable positions, is impressed in sand according to the usual methods and the mold after taking out the model is painted with cadmium.
25 The model 1 is now made smaller by removing from its entire surface a layer of from 2 to 5 mm. and is provided at suitable positions with holes 3 and placed again in the same mold. The carrier irons 2 support the model 1 so that a free space is formed between the latter and
30 the sand mold corresponding to the layer removed from the model 1. This space is now filled up by fluid metal consisting of an alloy of tin and lead, in which operation the fluid metal also penetrates into the holes 3 of the model 1. After cooling the metal surrounds
35 the wooden model 1 in the form of a layer 4, which in consequence of the slow cooling of the metal in the holes 3, is drawn close to the wooden model. The

metal in the holes 3 also serves after cooling to stiffen the pattern. The carrier irons 2 are now removed and the holes left in the layer are filled up with tin.

40 Instead of tin and lead for the metal coating other alloys may be used. A pattern prepared in this manner has on the one hand the advantages of an iron pattern, consisting in great durability, clean casts, fire proof qualities etc., while it has at the same time the
45 advantages of a wooden pattern in its low weight and consequently more convenient handling combined with cheaper production.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A process for the production of casting patterns consisting in preparing a temporary model from soft wood, corresponding to the casting to be produced, impressing the model in sand, withdrawing it and reducing it by removing a shallow layer from its surface, replacing in the
55 mold and filling the space between the mold and the model with a melted alloy.

2. A process for the production of casting patterns consisting in preparing a wooden model, impressing the model in sand, withdrawing it, reducing it by the removal of a shallow surface layer, boring it with a series of holes, replacing it in the mold and filling the space between the
60 mold and the model and the holes in the latter with a melted alloy.

3. A process for the production of casting patterns consisting in preparing a wooden model, inserting supporting
65 irons in the said model, impressing it in said, withdrawing it and reducing it by the removal of a shallow surface layer, replacing in the mold, filling the space between the mold and the model with a melted alloy, withdrawing when
70 the alloy has set, removing the supporting irons and filling up the holes left by them with metal.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

FRANZ VALENTA.

Witnesses:

W. KAUFFMANN,
C. GUBLER.