

Feb. 21, 1933.

H. G. YOUNG

1,898,864

METALLIC FACED BUILDING UNIT

Filed Jan. 12, 1931

3 Sheets-Sheet 1

Fig. 1.

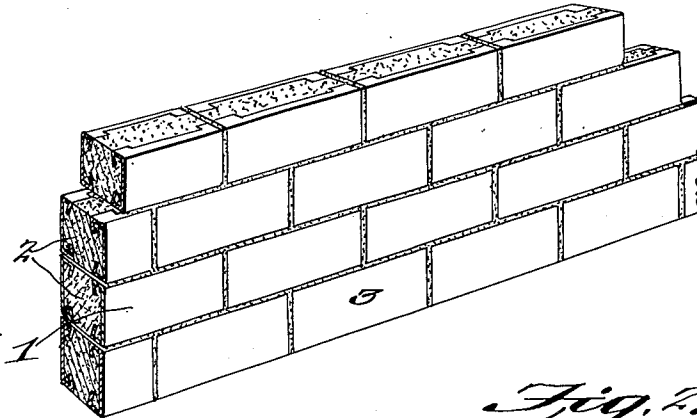


Fig. 2.

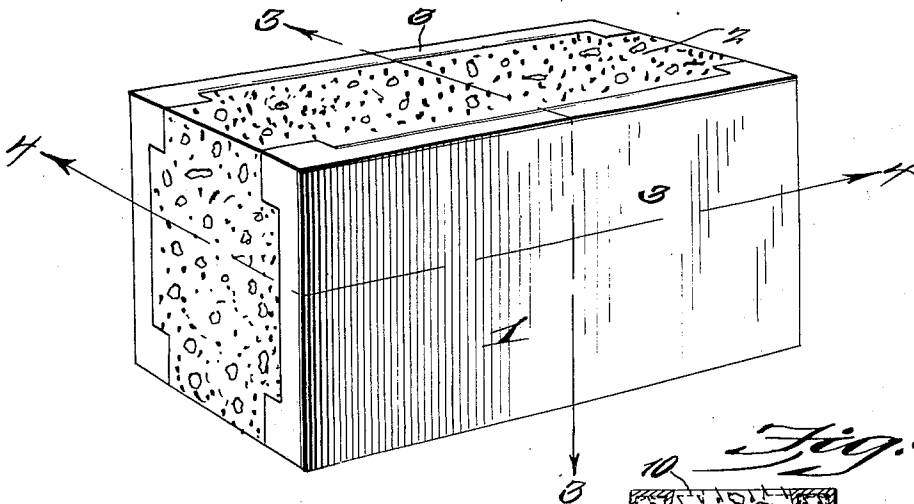


Fig. 3.

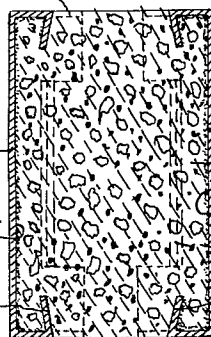
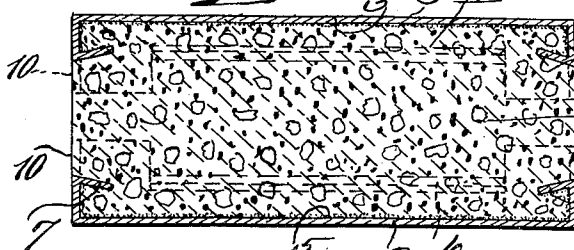


Fig. 4.



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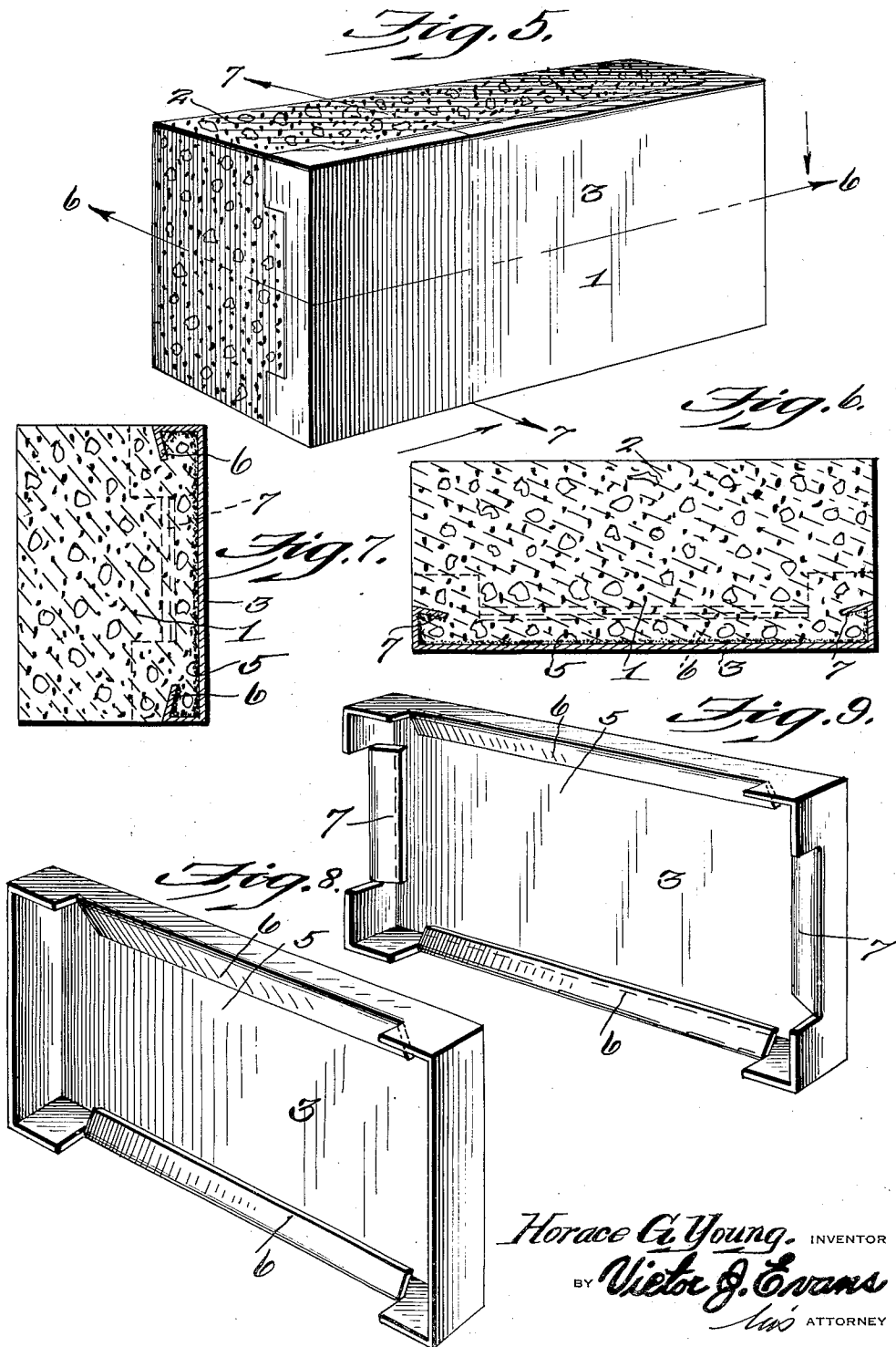
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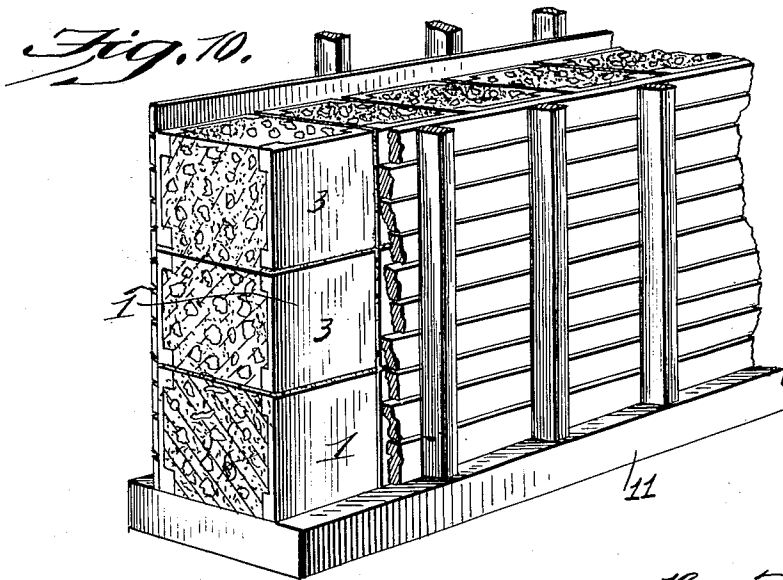
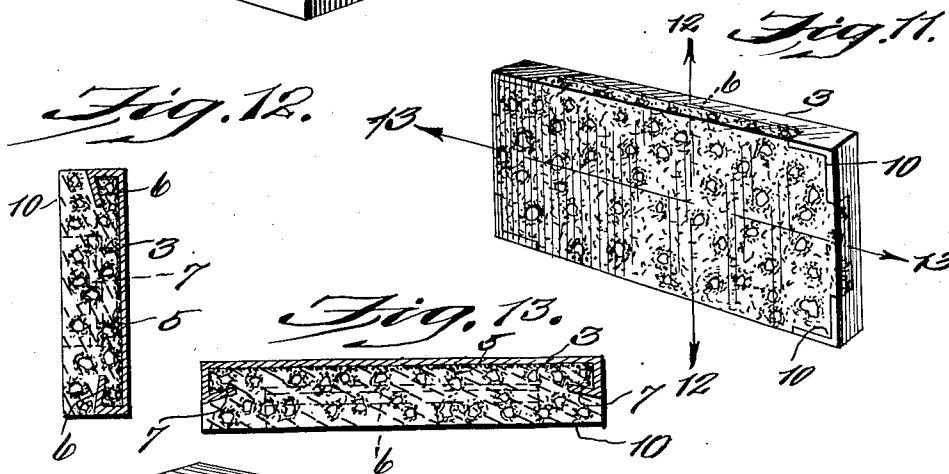
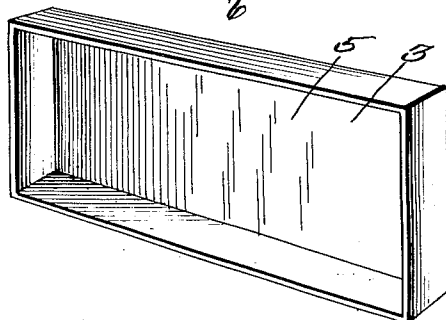
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METALLIC FACED BUILDING UNIT

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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METALLIC FACED BUILDING UNIT

Application filed January 12, 1931. Serial No. 508,201.

This invention relates to the general art of building units and especially units composed of cementitious material with stone, shale, rock or cinders as aggregates, the cementitious material acting to hold the particles together, or wherein a combination of cementitious material in sand is used.

It is, therefore, the purpose of the invention to provide a unit consisting of two sections, a body section and a faced section, the purpose being to provide improved means for connecting the two sections, thereby insuring a unitary body or article, such as may be used in building a wall.

Another purpose is to provide a building unit having a faced section or facing section including a metal facing made of steel, copper, aluminum or other metals, or alloys of metals mixed or steel and other alloys, and particularly metallic material of such a nature that will not corrode.

Another purpose is to provide in a building unit, a body section and a facing section, the two sections being so formed or interlocked as to provide a solid body.

Another purpose is to provide a building unit including a body section having opposite facing sections, namely an interior metallic facing section and an exterior metallic facing section, the body section being composed of some suitable cementitious material, which may or may not include sand, cracked stone, shale, rock or cinders as aggregates, there being means in addition to the interlocking of the sections for causing the metallic facing sections to closely adhere to the body section at all times.

It is also the purpose of the present invention to provide a moistureproof exterior surface such as will exclude dampness, and due to the facing section being impervious to dampness and moisture, and thereby eliminating any possibility of freezing of moisture (which may be derived from condensation) between the two sections, and thus cause the metallic facing section to leave the body section.

A further purpose is to provide a metallic facing unit so coated on its inner face (which comes in contact with the body section) with

a saponified asphaltum, pitch or other like material, the asphalt being saponified, will readily mix with water and Portland cement, and this mixture applied to the inner surface of the metallic facing section will afford adhesive means to insure holding the metallic facing section to the body section, and thereby provide a unitary building member. The building unit may have its metallic facing section provided with any form of ornamentation or design, and in constructing a wall utilizing building units of this character it is the purpose to use a waterproof mortar such as will form a bonding between the various units, as well as using a waterproof mortar in fastening the facing sections to the body section.

It is to be understood that the particulars herein given are in no way limitative, and that while still keeping within the scope of the invention, any desired modification of details and proportions may be made in the construction of the appliance according to circumstances.

The invention comprises further features and combination of parts to be hereinafter set forth, shown in the drawings and claimed.

In the drawings:—

Figure 1 is a perspective view of a wall showing it constructed of a plurality of building units, where the units are arranged to break joints.

Figure 2 is a view in perspective of the improved building unit, showing opposite faces of the unit provided with metallic face sections.

Figure 3 is a cross sectional view on line 3—3 of Figure 2.

Figure 4 is a longitudinal sectional view on line 4—4 of Figure 2.

Figure 5 is a perspective view of a building unit showing the body section equipped with a single outer facing section, though this same unit can be used for building a wall, wherein the facing section will make up the interior of the wall, for instance as in the construction of a tunnel or subway under a river.

Figure 6 is a sectional view on line 6—6 of Figure 5.

Figure 7 is a sectional view on line 7—7 of Figure 5.

Figure 8 is a detailed view in perspective of a facing section, showing the imbedded flanges on only two sides of the facing section.

Figure 9 is a detailed perspective view of a facing section as used in Figures 1 to 3 inclusive, showing flanges on all four edges thereof.

Figure 10 is a view in perspective showing a foundation and a plurality of facing sections mortared together to receive the cementitious material in order to constitute the body between the facing sections, the interior surfaces of the various facing sections to be coated with an adhesive saponified asphaltum product or material, such as will act as water proofing substance.

Figure 11 is a detail view showing the unit used as a tile.

Figure 12 is a sectional view on line 12—12 of Figure 11.

Figure 13 is a sectional view on line 13—13 of Figure 11.

Figure 14 is a view of a facing section before the inturned flanges 6 and 7 are formed.

Referring to the drawings 1 identifies a building unit, comprising a body section 2 and metallic facing sections 3. The body section 2 is composed of any suitable cementitious material, such as concrete or cement using stone, shale, rock or cinders as aggregates, or compound of sand and Portland cement, or any other binding material.

The facing sections 2 and 3 may be made of any suitable metal, such as steel, copper, aluminum or alloys of metal, preferably metal which is non-corrosive, it being obvious that either both longitudinal inner and outer faces or one of the faces may be provided with a metallic facing section.

However before applying the metallic facing section it may be coated on the interior with an adhesive saponified asphaltum material at 5, so as to provide a bonding between the body section and the metallic facing sections.

Each facing section may have its longitudinal side and end edges formed with inturned flanges 6 and 7 which are inclined toward the inner surfaces of the metallic facing section. These flanges imbed into the cementitious material, and thereby interlock the metallic facing sections to the body section. The corners of the facing sections remain straight, and are flush with the side and end faces of the unit.

When the units are arranged one upon the other, either to break joints (Figure 1), or as in Figure 10, the contacting side end edges are coated with a water proof bonding material, such as asphaltum of the nature as herein specified.

As in Figures 11, 12 and 13 the cementi-

tious material interlocks and binds to the facing section to provide building units in the form of tiles, and in this case the cementitious material is smoothed off or made flush with the edges of the corners of the facing section, as identified at 10.

As shown in Figure 10, it is possible to arrange the facing sections one upon the other as shown, and prior to so disposing them, they are coated with an adhesive saponified asphaltum material, thereby insuring a bonding between the facing sections and the body sections of the units. In other words the units are formed as the wall is constructed, a foundation 11 having first been formed.

It is to be understood that the metallic facing for a building unit may be constructed as in Figure 14, where the side and end flanges may either remain as they are and applied to the body of the unit, or they may be cut and bent as in Figures 8 and 9. Of course in the event that the side and end flanges are not cut and bent inwardly it is to be understood that a substantial coating of asphaltum will be applied to the inner surfaces, to insure the facing remaining in position. However it is preferable to cut and bend the side and end flanges so as to imbed into the body of the unit when the unit is being formed, to insure against any detachment of the metal facing. It is also to be understood that should the side and end flanges not be cut the flanges will be imbedded into the cementitious material so that its outer surface will be flush with the outer surfaces of the flanges.

The invention having been set forth, what is claimed is:

1. A building unit comprising a cementitious body section and a metal facing section, the latter having side and end flanges sunk into the cementitious material sufficient that the outer face of the material is flush with the outer faces of the side and end flanges, and adhesive of asphaltum on the interior surface of the metal face section to insure a tight bonding between the body section and the face section, said side and end flanges having laterally bent portions extending inwardly and toward the inner surface of the metal face section to lock the face section to the body section, said side and end flanges at points beyond the inwardly bent portions merging integrally into corner pieces, which also assist in locking the face section to the body section.

2. In a process for constructing a building unit, the steps consisting forming and disposing opposite facing sections, bending portions of the longitudinal and end walls of the facing section, locking the bent portions into an intermediate body section, which is formed between the two facing sections by pouring cementitious material between the facing sections, thereby imbedding said bent portions into the body section, applying an

adhesive bonding to the inner faces of the facing sections whereby the cementitious material when poured between the facing sections an adhesion of the parts may be assured, applying an adhesive bonding to the exterior of the longitudinal and end walls of the facing section, whereby said longitudinal and end walls may adhere to adjacent portions of similar sections.

10 In testimony whereof he affixes his signature.

HORACE G. YOUNG.

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