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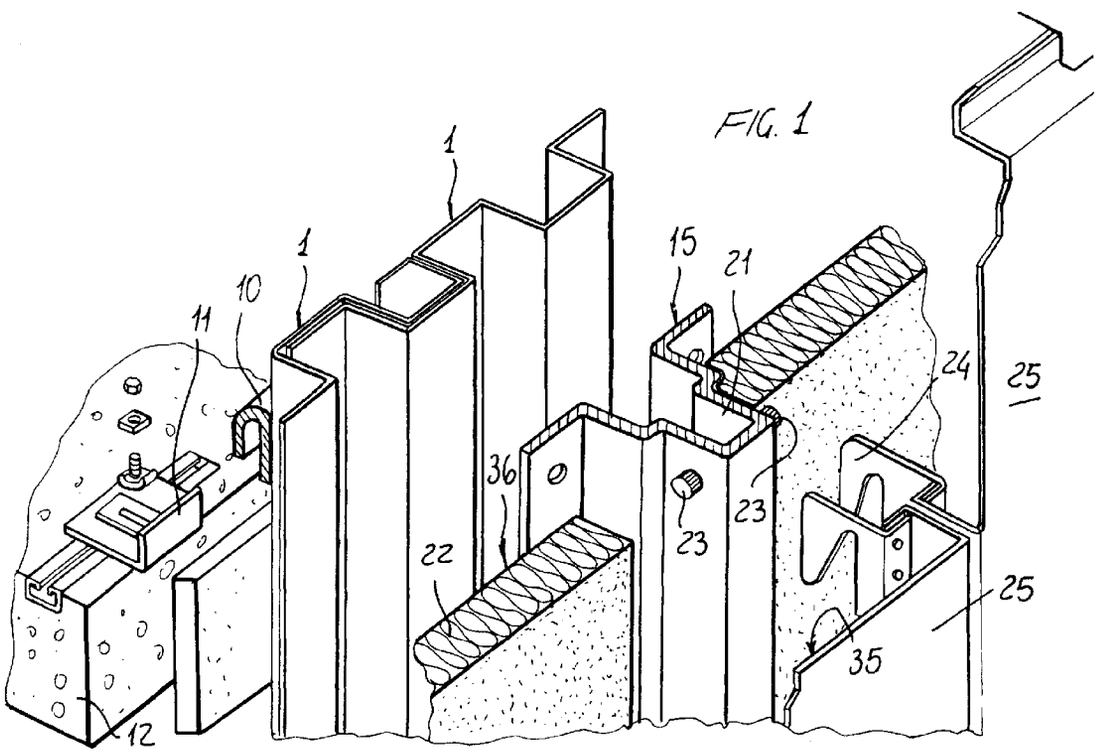
(54) Building system for building a water, air and flame proof continuous facade

(57) The present invention relates to a building system for building a water, air and flame proof continuous facade, which comprises continuous ribbed sheet metal elements which can be connected to the floor slabs of a building for providing a supporting construction suitable to support the facade outer coating elements, and comprising moreover thermal insulating elements as well as inner plugging panels.

FIG. 1



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Description

BACKGROUND OF THE INVENTION

The present invention relates to a building system for building a water, air and flame proof continuous facade.

In making continuous facades, great problems are at present encountered for rendering the building being constructed resistant to water, air and flame, since it is necessary, in order to provide a tightness building, to use and install a plurality of gaskets, sealing elements, and the like.

Another drawback affecting the prior art in this field is that no rational and practical system is available for likewise making both the outer continuous facade and the inner plugging or coating walls.

SUMMARY OF THE INVENTION

Accordingly, the aim of the present invention is to overcome the above mentioned drawbacks, by providing a building system for easily making a water, air and flame proof continuous facade which is specifically suitable to provide an overall metal coating of all of the parts of the building, thereby providing perfect impermeableness characteristics.

Within the scope of the above mentioned aim, a main object of the present invention is to provide such a building system in which all of the permanent and accidental loads on the primary construction affect exclusively the uprights of the ribbed construction, which is left in a free and independent condition, being free of any cross members, sleeve members, bridging members, joints and the like.

Another object of the present invention is to provide a building system allowing to fully overcome the deflection strains of the cross members as well as dangerous lockings of the joints, with a consequent elimination of expansion noises.

Yet another object of the present invention is to provide such a building system for making continuous facades which can use easily commercially available elements and materials and which, moreover, is very competitive from a mere economic standpoint.

According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a building system for building a water, air and flame proof continuous facade, characterized in that said building system comprises continuous ribbed sheet metal elements which can be connected to the floor slabs of a building so as to provide a supporting construction for supporting the outer coating element of the facade, as well as thermal insulating elements and inner plugging wall panels.

BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of some preferred, though not exclusive, embodiments, of a building system for building a water, air and flame proof continuous facade, which is illustrated, by way of an indicative, but not limitative, example, in the accompanying drawings, where:

Figure 1 is a schematic perspective view illustrating a first embodiment of the building system according to the present invention;

Figure 2 is a horizontal cross-sectional view illustrating a second embodiment of the building system according to the invention;

Figure 3 illustrates a third embodiment of the building system according to the invention; and

Figure 4 is a cross sectional view of the subject building system substantially taken along a vertical plane.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference to the above mentioned figures, the building system for building a water, air and flame proof continuous facade according to the present invention, comprises, as a main feature thereof, ribbed sheet metal elements, indicated by the reference number 1 in figure 1, the reference number 2 in figure 2 and the reference number 3 in figure 3.

These ribbed sheet metal elements, in particular, can be made of steel, aluminium or stainless steel and are specifically obtained by a special profiling method or cold molding method, adapted to provide a bearing assembly on which will be anchored or affixed all of the elements constituting the exposed facade as well as the inner plugging or covering wall of the building.

With reference to figure 1, on the sheet metal construction 1 is provided, at the rear, a hook element 10, to be engaged with a counter-hook element 11, provided on the floor slab 12, so as to fixedly connect the sheet metal construction or element 1 to the fixed structure.

Moreover, a bracket 15 is provided, for connection to said metal sheet element 1, preferably at the joints thereof, and including a central portion 21 operating as a side restraining element for the thermal insulating panels 22.

On said central portion 21 are moreover provided a plurality of pins or pegs 23, thereon are engaged coupling connecting hook elements 24, which are in turn connected on the outer panels 25 forming the continuous facade.

Thus, a construction is provided, having two air gaps and, in particular, a ventilated air gap 35 which, in addition to eliminating possible water susceptible to en-

ter the facade, will also reduce the wind pressure and negative pressure, as well as possible condensate materials and the sun rays or effects on the construction.

The other gap 36 defines a tight chamber, under the thermal insulating panels 22, providing an efficient and unexpensive thermal insulation.

With reference to figure 2, the ribbed sheet elements 2 herein shown are provided, at their longitudinal edges, with coupling elements 40, which connect to one another and to an upright strip 42, rigid with the floor slab.

In particular, the sheet metal elements are connected to the floor slab, also indicated by the reference number 12, so as to anchor said sheet metal elements or hang them to the fixed construction.

On the edges 40 a connecting block 45 is provided, on which are formed a plurality of holes for connection with the hook elements, also indicated by the reference number 24, of the facade panels 25, whereas in the inside insulation material layers 22 are provided.

As is clearly shown in figure 3, the sheet metal element 3 is connected to the floor slab 12 by means of conventional expanding plug elements, and being provided, at the end portions thereof, with overlaying edges 50, coupled to one another by screw elements.

At the overlying edges are provided brackets 51 coupled to the ribbed sheet metal elements and supporting the outer panels, indicated by the reference member 25.

In the inside of the thus made construction, will be properly arranged one or more building paper panels, indicated by the reference number 60, which will operate to provide the finishing inner face of the building.

From the above disclosure it should be apparent that the invention fully achieves the intended aim and objects.

In particular, the fact is to be pointed out that a tight and integral building or construction has been provided, on which it is possible to apply all of the conventional panel types, either of the blind type or of a glassed type, either fixed or openable, since the mentioned panels will have exclusively an aesthetic function, the tightness properties as well as the thermal insulating properties being provided by the disclosed integral ribbed construction which, practically, covers all of the building sides.

Moreover, it should be apparent that the outer panels do not have any sealing effect.

Moreover, the sealing of the building will have a nearly unlimited duration, the aesthetic aspect of the facade being very satisfactory.

The invention as disclosed is susceptible to several modifications and variations all of which will come within the inventive idea scope.

Moreover, all of the details can be replaced by other technically equivalent elements.

In practicing the invention, the used materials, as well as the contingent size and shapes can be any, depending on requirements.

Claims

1. A building system for building a water, air and flame proof continuous facade, characterized in that said building system comprises continuous ribbed sheet metal elements which can be connected to the floor slabs of a building so as to provide a supporting construction for supporting the outer coating element of the facade, as well as thermal insulating elements and inner plugging wall panels.

2. A building system, according to the preceding claim, characterized in that said ribbed sheet metal elements are made of steel, aluminium or stainless steel.

3. A building system, according to the preceding claims, characterized in that said ribbed sheet metal elements are superimposed onto one another at edge portions thereof.

4. A building system, according to one or more of the preceding claims, characterized in that said ribbed sheet metal elements comprise fretted sheet metal elements supporting, on their top faces, a hook element provided for engaging with a counter-hook element fixed to the building floor slab.

5. A building system, according to one or more of the preceding claims, characterized in that said building system comprises moreover a bracket element, which can be arranged over said fretted sheet metal elements and defining a central portion provided with pegs for engaging with hook elements of the outer coating element or panels of the facade, said central portion also defining respective regions for housing layers of thermal insulating material.

6. A building system, according to one or more of the preceding claims, characterized in that said building system comprises moreover, on edge portions of said ribbed sheet metal elements, coupling elements for connection with a coupling block defining holes for engaging therein fixing hook elements of the facade panels.

7. A building system, according to one or more of the preceding claims, characterized in that said building system provides a ventilated gap between a thermal insulating material layer and the facade panels as well as an air gap between said sheet metal elements and thermal insulating panels.

8. A building system, according to one or more of the preceding claims, characterized in that said building

system comprises moreover, on the inner surface of said ribbed sheet metal elements, a plurality of building paper covering panels.

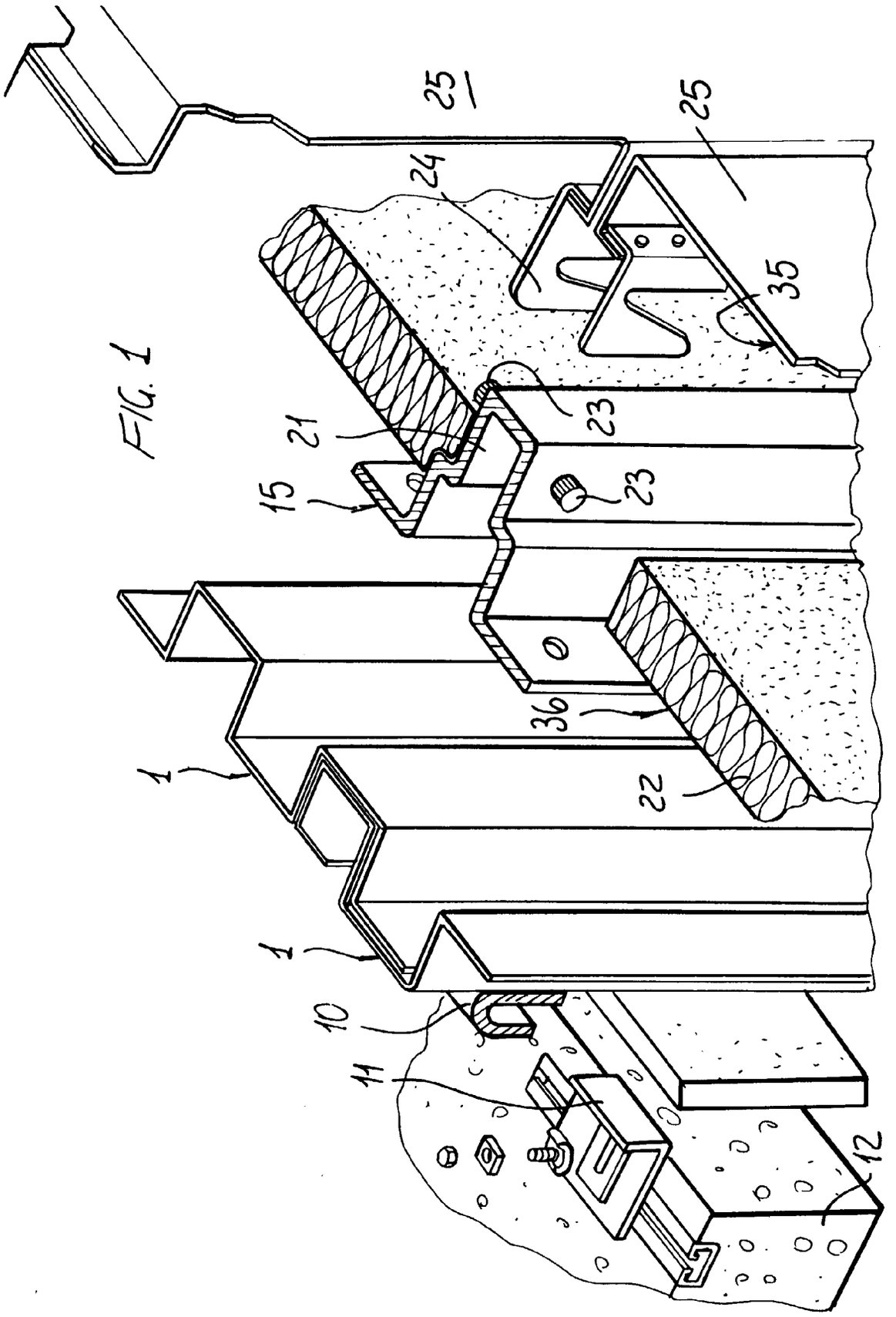

FIG. 1

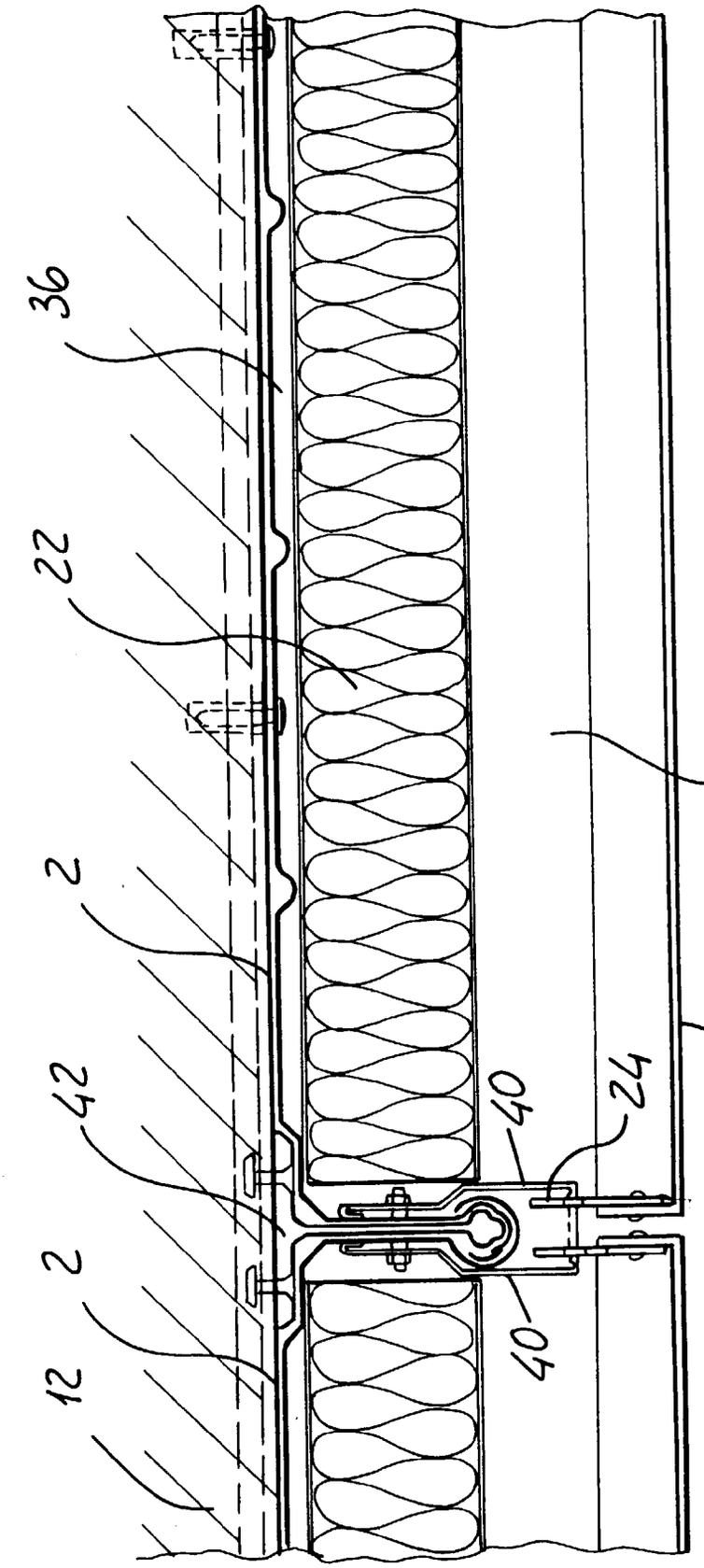

FIG. 2

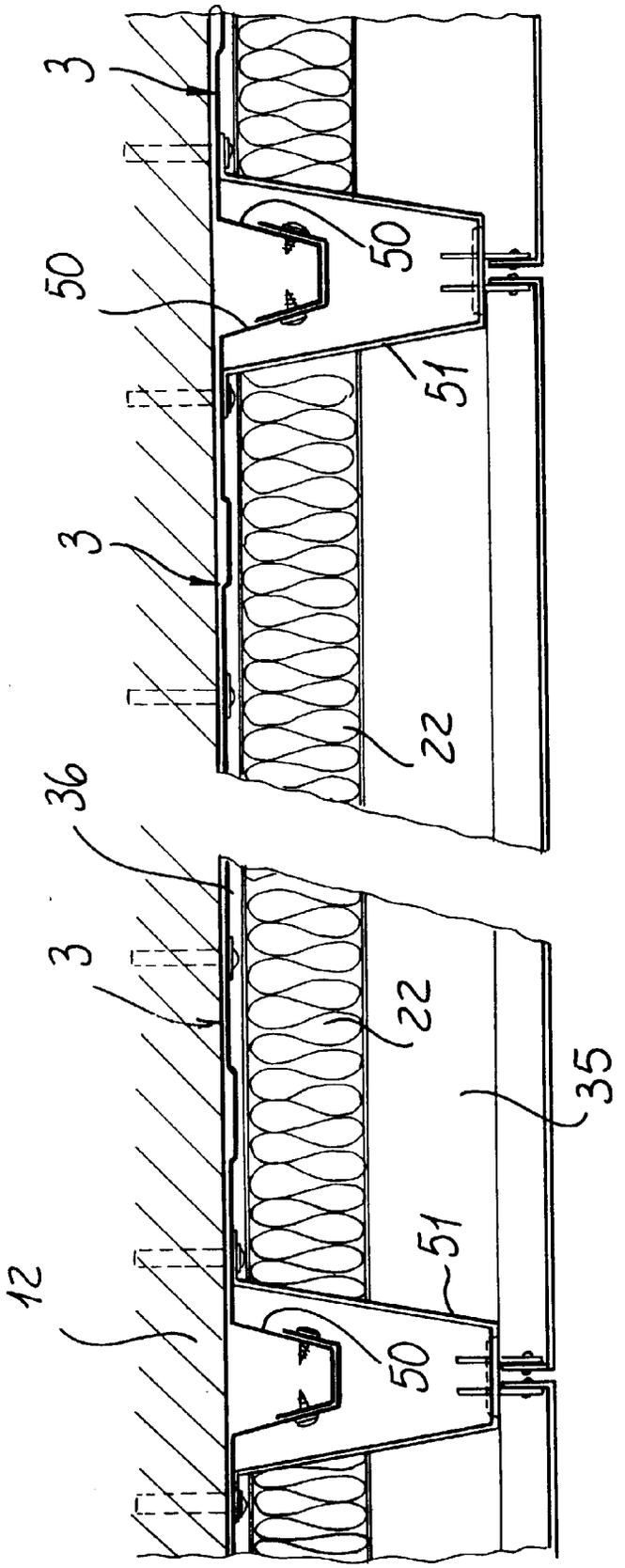

FIG. 3

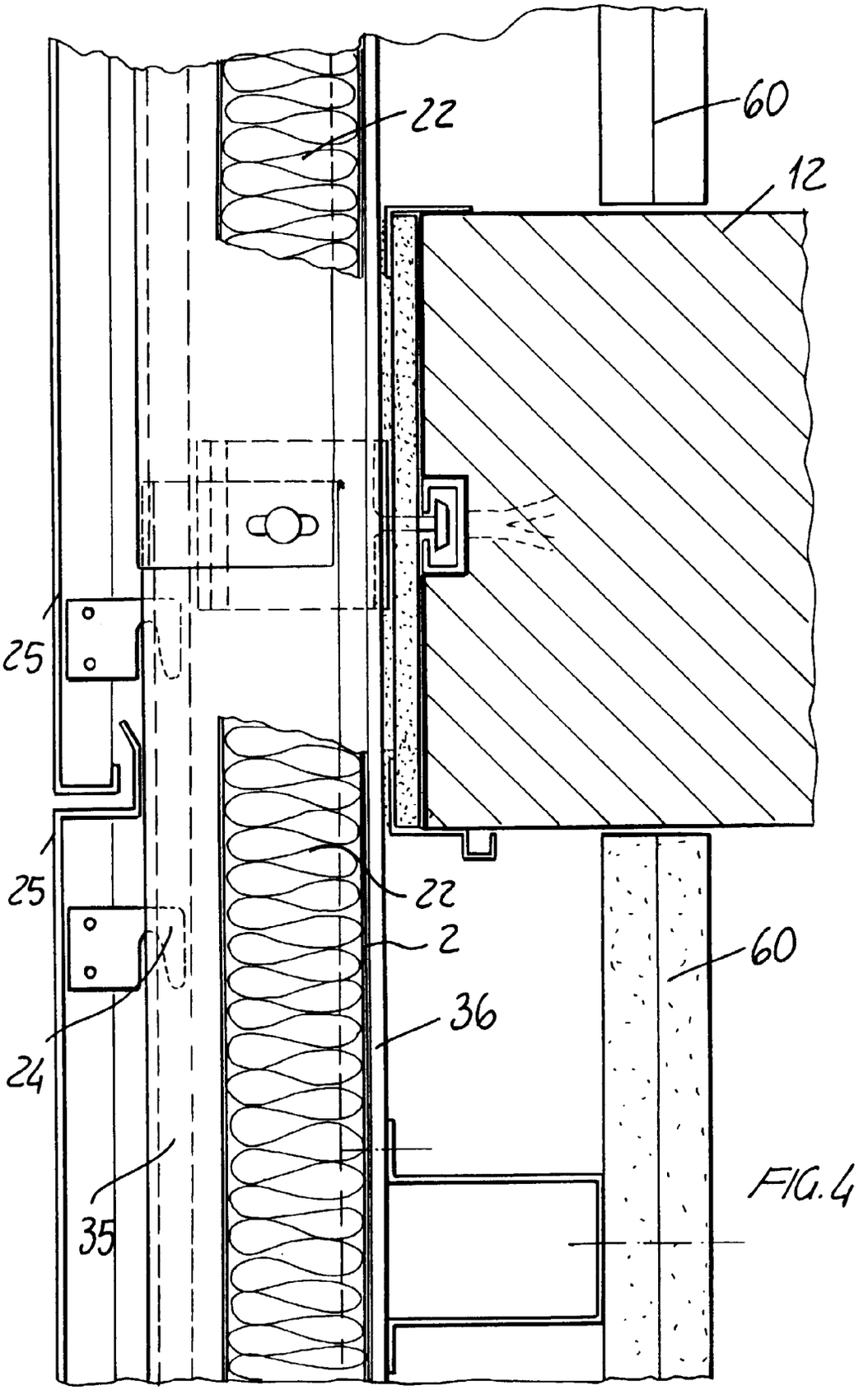

FIG.4