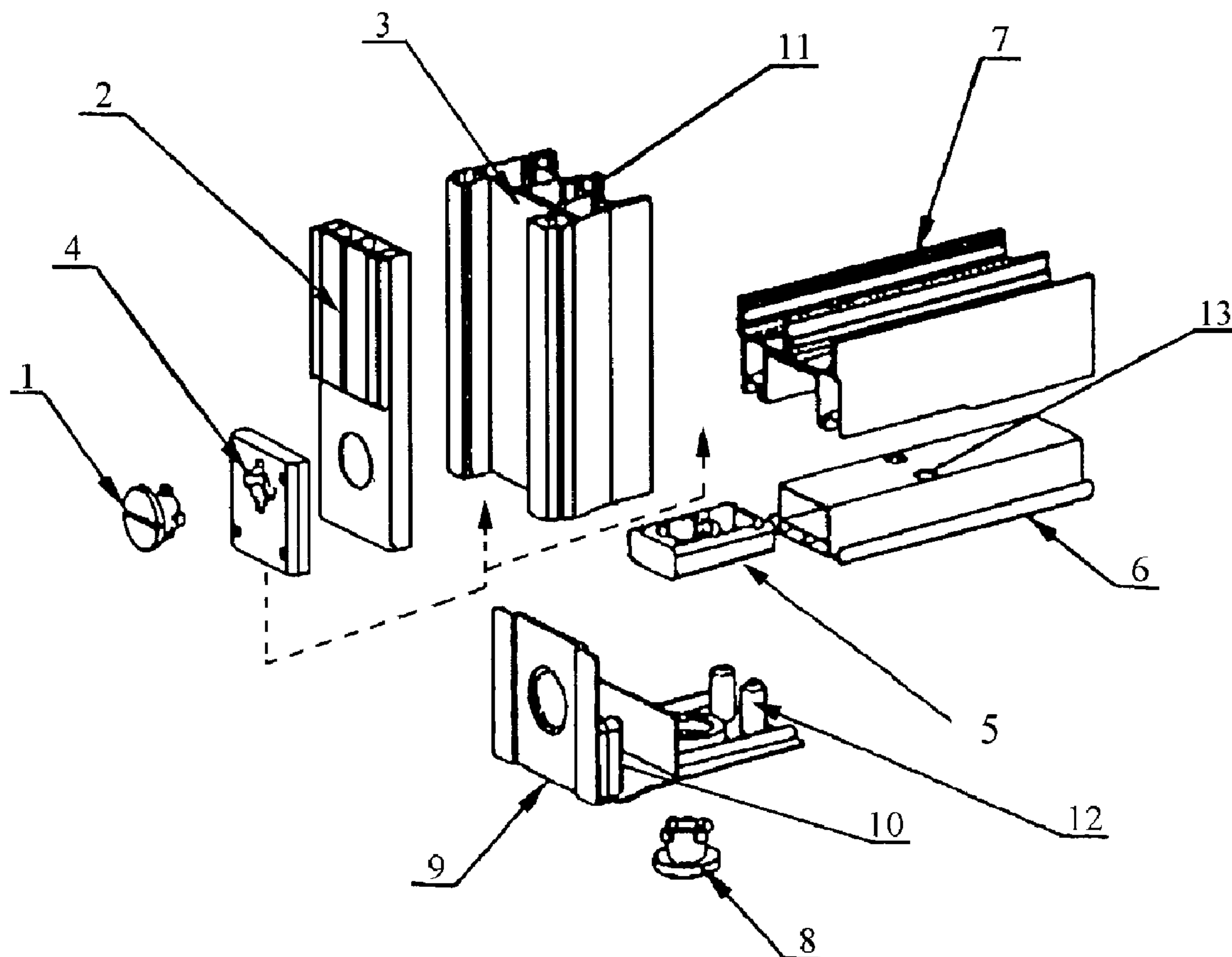




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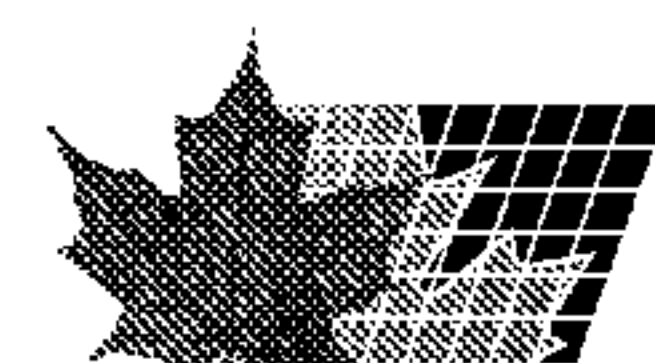
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(54) Titre : STRUCTURE D'ASSEMBLAGE POUR LES CADRES DE PORTES ET DE FENETRES
(54) Title: A JOINT FRAME FOR THE FRAMES OF DOORS AND WINDOWS



(57) Abrégé/Abstract:

Disclosed is an insertion assembly for door and window frames which comprises a side frame and a transverse frame which is perpendicular to the side frame. An L-shape fixed member is provided at the outside of a connection portion of the side frame and



(57) **Abrégé(suite)/Abstract(continued):**

the transverse frame, a side fastening bolt is provided to pass through a through hole at an upright portion of the fixed member and a through hole at the side frame to connect a side fastening panel, and a transverse fastening bolt is provided passing through a through hole at a transverse portion of the fixed member and a through hole at the transverse frame to connect a transverse panel.

ABSTRACT

Disclosed is an insertion assembly for door and window frames which comprises a side frame and a transverse frame which is perpendicular to the side frame. An L-shape fixed member is provided at the outside of a connection portion of the side frame and the transverse frame, a side fastening bolt is provided to pass through a through hole at an upright portion of the fixed member and a through hole at the side frame to connect a side fastening panel, and a transverse fastening bolt is provided passing through a through hole at a transverse portion of the fixed member and a through hole at the transverse frame to connect a transverse panel.

A JOINT FRAME FOR THE FRAMES OF DOORS AND WINDOWS

TECHNICAL FIELD OF THE INVENTION

This invention relates to a field of building materials and more particularly to an
5 insertion assembly for door and window frames.

BACKGROUND OF THE INVENTION

Recently, profiles (also called sections or section bars) made from aluminum alloy
or steel-plastics have been widely used in the building material area. Especially, they have
10 been utilized to fabricate most of door and window frames of buildings instead of the wood
or steel. A technical issue on how to connect parts of the profile naturally arises.

Current profiles have been made by welding or inserting parts thereof. For
example, a steel profile can be made by welding parts thereof, an aluminum alloy profile can
be manufactured by welding or connecting parts thereof, and steel-plastic profile can be
15 fabricated by welding parts thereof. However, in a practical fabrication or installation
process, although the flatness of the profile is good, there are some defects such as lower
accuracy of its shape, inconvenience of assembling, and difficulty in fabricating on the spot
after the profiles are cut to form a frame. Further, since a deformation of the profile will occur
after it is used for a period of time, it is not convenient to disassemble the profile for
20 maintenance thereby causing a waste. Therefore, there is a need to solve the problem of
connecting parts of the profile.

SUMMARY OF THE INVENTION

The present invention provides an insertion assembly for door and window frames
25 to make casement frames of a door or a window conveniently assemblable and
disassemblable, with improved accuracy of assembly and strength.

Accordingly, the present invention provides an insertion assembly for door and
window frames, comprising a side frame and a transverse frame disposed perpendicularly
thereto, wherein an L-shape fixed member is provided at the outside of a connection portion
30 of the side frame and the transverse frame, a side fastening bolt is provided to pass through a

through hole at an upright portion of the fixed member and a through hole at the side frame to connect a side fastening panel, and a transverse fastening bolt is provided passing through a through hole at a transverse portion of the fixed member and a through hole at the transverse frame to connect a transverse panel.

5 According to the present invention, the side frame and the transverse frame are connected to each other by the outer fixed member and the fastening plate. This insertion assembly has a relatively simple configuration, improves the accuracy of the door and window frame, ensures the verticality between the side frame and the transverse frame, reduces the accuracy requirements of cut edges of the side frame and the transverse frame,
10 and avoids defects of the insertion assembly, such as a lower accuracy caused in the welding of the profile and a lower strength caused in the adhering of the same. The profile of the present invention is convenient in use, installation, disassembly and maintenance, and facilitates to be standardized in the manufacture and management.

15 BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing an insertion assembly of the present invention;
and

FIG. 2 is an exploded view showing parts of the insertion assembly of Fig. 1.

20 EMBODIMENTS OF THE INVENTION

Referring now to Figs. 1 and 2, which show an embodiment according to the present invention, an insertion assembly 100 for door and window frames includes a side frame 3 and a transverse frame 7 disposed perpendicularly to the side frame 3. The side frame 3 and the transverse frame 7 may be those profiles commercially available or profiles
25 having a specific profile.

An L-shape fixed member 9 is provided at the outside of a connection section 20 of the side frame 3 and the transverse frame 7. The fixed member 9 may be a specific structure having an angle of 90° made by a mould so as to ensure the verticality between the side frame 3 and the transverse frame 7.

A side fastening bolt 1 is provided to pass through a through hole 93 at an upright portion 91 of the outer fixed member 9 and a through hole (not shown) at the side frame 3 to connect a side panel 4 so as to form an integral structure. Similarly, a transverse fastening bolt 8 passing through a through hole at a transverse portion 92 of the outer fixed member 9 and a through hole (not shown) at the transverse frame 7 connects a transverse panel 5.

In order to further improve the strength of the insertion assembly, pins 10 are provided at the transverse portion of the outer fixed member 9 and holes 11 corresponding to the pins are formed at an opposite surface of the side frame 3 into which the pins 10 can be inserted.

In this embodiment provide two holes 11, each of which is provided at an edge of the side frame 3. A groove is formed between the two holes 11. A side steel lining panel 2 is provided in the groove and the side fastening panel 4 is sandwiched between the side steel lining panel 2 and the fixed member 9 so that the side fastening bolt 1 can make the side fastening panel 4, the upright portion of the outer fixed member 9 and the side steel lining panel 2 coupled together. The strength of the insertion assembly can be improved with the side steel lining panel 2.

At a lower portion 71 of the transverse frame 7 is provided a rectangular slot 72 within which a hollow transverse steel lining member 6 is provided. Lower extended edges 61 of the transverse steel lining member 6 are engaged to lower ends 73 of the side walls of the rectangular slot 72. A transverse fastening panel 5 is disposed within the hollow transverse steel lining member 6. The transverse fastening bolt 8 is connected to the transverse fastening panel 5 so as to secure the transverse frame in which the transverse steel lining member 6 is provided, thereby further improving the bearing capacity of the insertion assembly in the transverse direction.

Positioning pins 12 are formed at an upper surface 94 of the transverse portion of the fixed member 9, and positioning holes 13 are correspondingly provided at the transverse steel lining member 6 to receive the positioning pins 12 further reinforcing the installation accuracy and structural strength of the insertion assembly.

The insertion assembly for door and window frames according to the present invention has a simple structure, facilitates applications and can be manufactured in a high standardized level.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. An insertion assembly for door and window frames, comprising a side
5 frame and a transverse frame disposed perpendicularly thereto, wherein an L-shape fixed
member is provided at the outside of a connection portion of the side frame and the
transverse frame, a side fastening bolt is provided to pass through a through hole at an
upright portion of the fixed member and a through hole at the side frame to connect a side
fastening panel, and a transverse fastening bolt is provided passing through a through hole
10 at a transverse portion of the fixed member and a through hole at the transverse frame to
connect a transverse panel.

2. The insertion assembly according to claim 1, wherein at least one pin is
provided at the transverse portion of the fixed member and at least one hole is provided at a
15 surface of the side frame opposite to the transverse portion to receive the at least one pin.

3. The insertion assembly according to claim 2, wherein two holes are
provided, each of which is formed at an edge of the side frame, a side steel lining panel is
provided in a groove formed between the two holes, the side fastening panel is sandwiched
20 between the side steel lining panel and the fixed member, and the side fastening bolt is
connected to the side panel, the upright portion of the fixed member and the side steel
lining plate together.

4. The insertion assembly according to claim 1, 2 or 3, wherein there is a
25 rectangular slot with sidewalls at a lower portion of the transverse frame into which a
hollow transverse steel lining member is insertable, with lower ends of the side walls of the
slot being engageable with lower extended ends of the hollow transverse steel lining
member, a transverse fastening panel being provided within the hollow transverse steel
lining member, and the transverse fastening bolt being connectable to the transverse
30 fastening panel.

5. The insertion assembly according to claim 4, wherein at least one positioning pin is formed at an upper surface of the transverse portion of the fixed member, and at least one positioning hole into which the at least one positioning pin is insertable is provided at the hollow transverse steel lining member.

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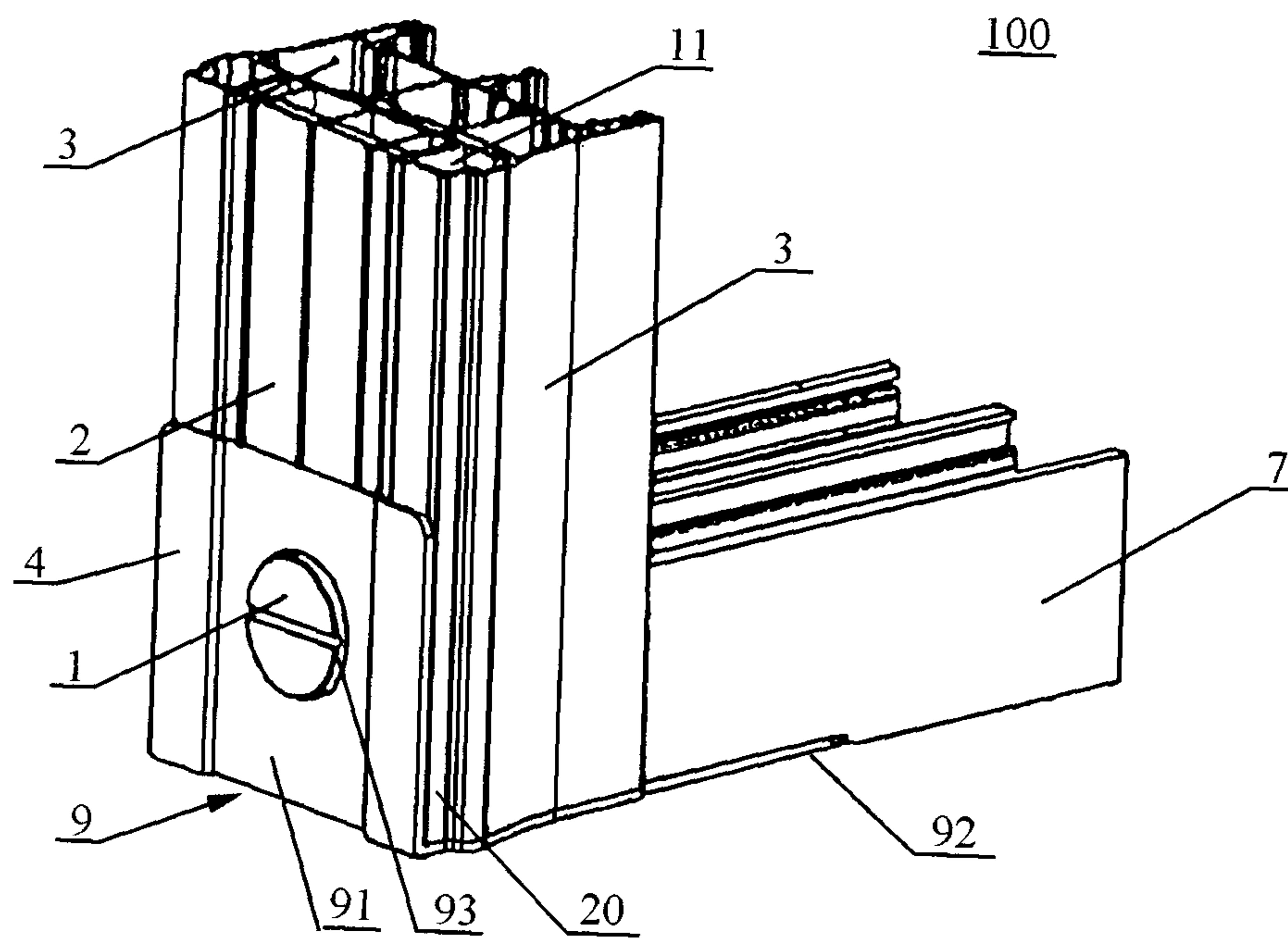


FIG. 1

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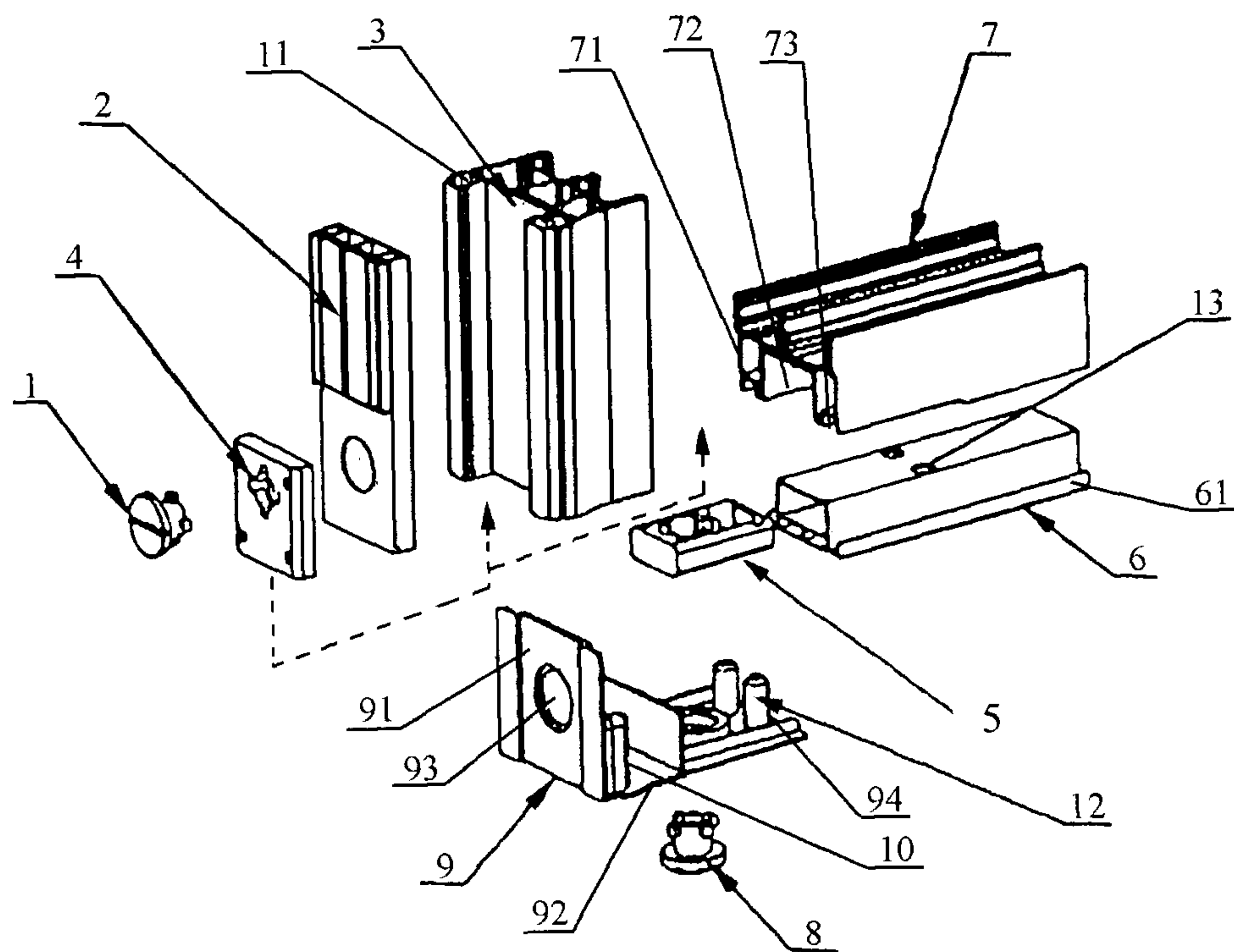


FIG. 2

