

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To

Dugaro, Sabine
ETEX SERVICES NV
Kuiermansstraat 1
1880 Kapelle-op-den-Bos
BELGIQUE

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44 1)

Date of mailing
(day/month/year)

12 September 2022 (12-09-2022)

Applicant's or agent's file reference
GY2106WO

FOR FURTHER ACTION See paragraphs 1 and 4 below

International application No
PCT/EP2022/060167

International filing date
(day/month/year)

15 April 2022 (15-04-2022)

Applicant

ETEX AUSTRALIA PTY LTD

- 1 ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46)

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report

How? Directly to the International Bureau preferably through ePCT, or on paper to
The International Bureau of WIPO, 34 chemin des Colombettes, 1211 Geneva 20, Switzerland

For more detailed instructions, see the *PCT Applicant's Guide*, International Phase, paragraphs 9 004 - 9 011

- 2 ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith

- 3 ☐ **With regard to any protest** against payment of (an) additional fee(s) under Rule 40 2, the applicant is notified that

- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices
☐ no decision has been made yet on the protest, the applicant will be notified as soon as a decision is made

4 Reminders

The applicant may **submit comments on an informal basis on the written opinion of the International Searching Authority** to the International Bureau. These comments will be made available to the public after international publication. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established.

Shortly after the expiration of **18 months from the priority date, the international application will be published** by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90*bis* 1 and 90*bis* 3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later), otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for **entry into the national phase** before those designated Offices. In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months. For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the *PCT Applicant's Guide*, National Chapters.

Within **22 months from the priority date, the applicant may request that a supplementary international search be carried out** by a different International Searching Authority that offers this service (Rule 45*bis* 1). The procedure for requesting supplementary international search is described in the *PCT Applicant's Guide*, International Phase, paragraphs 8 006-8 032.

Name and mailing address of the International Searching Authority



European Patent Office, P B 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel (+31-70) 340-2040
Fax (+31-70) 340-3016

Authorized officer

MADEIRA, João Luis
Tel +31 (0)70 340-9879

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference GY2106WO	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below	
International application No PCT/EP2022/060167	International filing date (day/month/year) 15 April 2022 (15-04-2022)	(Earliest) Priority Date (day/month/year) 16 April 2021 (16-04-2021)
Applicant ETEX AUSTRALIA PTY LTD		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets

☒ It is also accompanied by a copy of each prior art document cited in this report

1 Basis of the report

a With regard to the **language**, the international search was carried out on the basis of

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12 3(a) and 23 1(b))

b ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43 6bis(a))

c ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I

2 ☐ **Certain claims were found unsearchable** (See Box No. II)

3 ☐ **Unity of invention is lacking** (see Box No. III)

4 With regard to the **title**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established by this Authority to read as follows

5 With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38 2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6 With regard to the **drawings**,

- a the figure of the **drawings** to be published with the abstract is Figure No. 1
☒ as suggested by the applicant
☐ as selected by this Authority, because the applicant failed to suggest a figure
☐ as selected by this Authority, because this figure better characterizes the invention
b ☐ none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2022/060167

A CLASSIFICATION OF SUBJECT MATTER
INV. E04B2/76 E06B1/52
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

E04B E06B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal**C DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	NL 1 015 705 C2 (BERKVEN'S HOUTIND NL BEHEER BV [NL]) 15 January 2002 (2002-01-15) figures 1-4 -----	1, 3-7
X	US 1 441 559 A (JACOB BURHEN REINHART) 9 January 1923 (1923-01-09) figures -----	1, 5-7
A		4

☐ Further documents are listed in the continuation of Box C

☒ See patent family annex

* Special categories of cited documents

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

2 September 2022

Date of mailing of the international search report

12/09/2022

Name and mailing address of the ISA/
 European Patent Office, P B 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel (+31-70) 340-2040,
 Fax (+31-70) 340-3016

Authorized officer

Verdonck, Benoit

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2022/060167

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
NL 1015705	C2	15-01-2002	NONE	
US 1441559	A	09-01-1923	NONE	

Information on Search Strategy - Pilot phase (see OJ 2015, A86)

The type of information contained in this sheet may change during the pilot for improving the usefulness of this new service

Application Number

PCT/EP2022/060167

TITLE: WALL FRAMING BRACKET AND ASSEMBLY

APPLICANT: ETEX AUSTRALIA PTY LTD

IPC CLASSIFICATION: E04B2/76, E06B1/52

EXAMINER: Verdonck, Benoit

CONSULTED DATABASES:

CLASSIFICATION SYMBOLS DEFINING EXTENT OF THE SEARCH:

IPC:

CPC: E04B2/766, E06B1/524, E06B1/6015/LOW, E06B3/984

FI/F-TERMS:

KEYWORDS OR OTHER ELEMENTS FEATURING THE INVENTION:

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No
PCT/EP2022/060167

International filing date (day/month/year)
15 04 2022

Priority date (day/month/year)
16 04 2021

International Patent Classification (IPC) or both national classification and IPC
INV E04B2/76 E06B1/52

Applicant
ETEX AUSTRALIA PTY LTD

1 This opinion contains indications relating to the following items:

- ☒ Box No I Basis of the opinion
- ☐ Box No II Priority
- ☐ Box No III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No IV Lack of unity of invention
- ☒ Box No V Reasoned statement under Rule 43bis 1(a)(i) with regard to novelty, inventive step and industrial applicability, citations and explanations supporting such statement
- ☐ Box No VI Certain documents cited
- ☐ Box No VII Certain defects in the international application
- ☐ Box No VIII Certain observations on the international application

2 FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66 1bis(b) that written opinions of this International Searching Authority will not be so considered

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later

For further options, see Form PCT/ISA/220

Name and mailing address of the ISA



European Patent Office
P B 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel +31 70 340 - 2040
Fax +31 70 340 - 3016

Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

Verdonck, Benoit

Telephone No +31 70 340-0



Box No. I Basis of the opinion

- 1 With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12 3(a) and 23 1 (b))
- 2 ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis 1(a))
- 3 ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a ☐ forming part of the international application as filed:
 - ☐ in the form of an Annex C/ST 25 text file
 - ☐ on paper or in the form of an image file
 - b ☐ furnished together with the international application under PCT Rule 13ter 1(a) for the purposes of international search only in the form of an Annex C/ST 25 text file
 - c ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST 25 text file (Rule 13ter 1(a))
 - ☐ on paper or in the form of an image file (Rule 13ter 1(b) and Administrative Instructions, Section 713)
- 4 ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished
- 5 Additional comments

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No
PCT/EP2022/060167

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Statement

Novelty (N)	Yes	Claims	<u>2, 4, 8</u>
	No	Claims	<u>1, 3, 5-7</u>
Inventive step (IS)	Yes	Claims	<u>2, 8</u>
	No	Claims	<u>1, 3-7</u>
Industrial applicability (IA)	Yes	Claims	<u>1-8</u>
	No	Claims	

2 Citations and explanations

see separate sheet

Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1 NL 1 015 705 C2 (BERKVEN'S HOUTIND NL BEHEER BV [NL]) 15
 January 2002 (2002-01-15)

D2 US 1 441 559 A (JACOB BURHEN REINHART) 9 January 1923
 (1923-01-09)

1 The present application does not meet the criteria of Article 33(2) PCT, because the subject-matter of claim 1 is not new.

1.1 Claim 1 defines a bracket including a back-plate and opposed sides extending from the back-plate, wherein one of the sides defines an opening to allow access to the other side. It is pointed out that the opening is not further defined in the claim, so a simple circular hole or a slot also count as an opening according to claim 1.

Claim 1 further states that the bracket is for securing a header perpendicularly to a stud. It is pointed out that the stud and the header are not part of the claimed subject-matter (the bracket). Therefor the scope of the claim is only limited in so far that the bracket must be suitable for securing a header perpendicularly to a stud.

1.2 D1 discloses :

a bracket (2) including

a back-plate suited to be secured to a stud; and

opposed sides (13) extending from the back-plate, the sides spaced apart to allow arranging against, and fixing to, opposed surfaces of a header,

wherein one of the sides (in D1 even both sides) defines an opening (slot 24) to allow access to the other side to secure one or more fasteners therethrough and into the header.

The bracket 2 is suitable for securing a header perpendicularly to a stud.

D1 discloses therefor all the features of claim 1.

1.3 D2 discloses (see figures 1,4):

a wall framing bracket for securing a header perpendicularly to a stud, the bracket including:

a back-plate (15) configured to be secured to the stud; and
opposed sides (13,14) extending from the back-plate, the sides spaced apart to allow arranging against, and fixing to, opposed surfaces of the header, wherein one of the sides defines an opening (see figure 4) suitable to allow access to the other side to secure one or more fasteners therethrough and into the header.

- 2 When comparing the application as a whole with the prior art, it seems that the contribution of the application lays in that the opening in one of the sides is defined between a pair of spaced tabs, which allows fasteners to be secured through an elongated slit defined by the header and extending along a length of one of the sides .

To express this contribution, the following formulation is proposed :

*A wall framing bracket for securing a header **having opposed sides and defining an elongate slit extending along a length of one of the side** perpendicularly to a stud, the bracket including:*

*a back-plate configured to be secured to the stud; and
opposed sides extending from the back-plate, the sides spaced apart to allow arranging against, and fixing to, opposed surfaces of the header,
wherein one of the sides defines an opening **between a pair of spaced tabs** to allow access to the other side **through the slit of the header** to secure one or more fasteners through the other side and into the header.*

The basis for this formulation can be found in claims 1, 2 and 8.

Wall framing bracket and assembly

Technical Field

[0001] The present disclosure relates generally to wall framing used to construct interior or exterior walls of buildings.

Background

[0002] Framing is commonly used to construct interior and exterior walls of buildings. A wall frame is formed from timber or metal frame members and usually includes a plurality of vertically arranged studs connected between spaced top and bottom plates. For interior walls, drywall (also known as plasterboard) panels are secured to the studs.

[0003] A wall frame may define an opening for a window or door. Such openings include a header arranged horizontally between studs across a top of the opening. The header is typically secured to the studs by brackets and fasteners. Header brackets are generally configured as C-section bent sheet metal structures dimensioned to fit to opposed, parallel internal or external surfaces of the header. Assembling the header to the stud involves securing the bracket to the stud, arranging the header within, or around, the bracket, and securing fasteners through opposed top and bottom surfaces of the header and bracket.

[0004] An increasingly common approach to constructing doorways is to install a prefabricated door frame. This is secured within an opening defined by a pair of studs and a header of a wall frame. Using prefabricated door frames can provide various technical advantages. However, when installed, the door frame inhibits or prevents access to an underside of the header, which can complicate assembling the header to the studs.

[0005] Any discussion of documents, acts, materials, devices, articles or the like which has been included in the present specification is not to be taken as an admission that any or all of these matters were common general knowledge in the field relevant to the present disclosure as it existed before the priority date of each of the appended claims.

Summary

[0006] According to one aspect of the disclosure, there is provided a wall framing bracket for securing a header perpendicularly to a stud, the bracket including: a back-plate configured to be secured to the stud; and opposed sides extending from the back-plate, the sides spaced apart to allow arranging against, and fixing to, opposed surfaces of the header, wherein one of the sides defines an opening to allow access to the other side to secure one or more fasteners therethrough and into the header.

[0007] The opening may be defined between a pair of spaced tabs.

[0008] The back-plate may define a plurality of apertures, each aperture configured to receive a fastener to allow securing the bracket to the stud.

[0009] At least one of the sides may define a further plurality of apertures, each further aperture configured to receive a fastener to allow securing the bracket to the header.

[0010] The side accessible through the opening may define a width dimensioned to be less than a width defined by the back-plate. The width defined by the back-plate may be dimensioned to be substantially equal to a width defined by the stud. The side defining the opening may define a width dimensioned to be equal to the width defined by the back-plate.

[0011] According to another aspect of the disclosure, there is provided a wall framing assembly including: a stud; a bracket according to any of the preceding paragraphs; and a header having opposed sides and defining an elongate slit extending along a length of one of the sides, the slit dimensioned to be equal to, or greater than, the opening of the bracket to allow access through the opening.

[0012] Throughout this specification the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated element, integer or step, or group of elements, integers or steps, but not the exclusion of any other element, integer or step, or group of elements, integers or steps.

[0013] It will be appreciated embodiments may comprise steps, features and/or integers disclosed herein or indicated in the specification of this application individually or collectively, and any and all combinations of two or more of said steps or features.

5 **Brief Description of Drawings**

[0014] Embodiments will now be described by way of example only with reference to the accompany drawings in which:

[0015] Figure 1 is an isometric view of a wall framing bracket;

10 [0016] Figures 2 and 3 are top and front views, respectively, of the bracket shown in Figure 1;

[0017] Figures 4 and 5 are two isometric views of a wall framing assembly including the bracket shown in the previous figures; and

15 [0018] Figures 6 to 8 are each perspective views illustrating assembling the assembly shown in the previous figure above a prefabricated door frame.

Description of Embodiments

20 [0019] In the drawings, reference numeral 10 generally designates a wall framing bracket 10 for securing a header 12 (Fig. 4) perpendicularly to a stud 14 (Fig. 4). The bracket 10 includes a back-plate 16 configured to be secured to the stud 14, and opposed sides 18, 20 extending from the back-plate 16. The sides 18, 20 are spaced apart to allow arranging against, and fixing to, opposed surfaces 22, 24 (Fig. 4) of the header 12. One of the sides 18 defines an opening 26 to allow access to the other side 20 to secure one or more fasteners 28 (Fig. 4) therethrough and
25 into the header 12.

30 [0020] Figures 1 to 3 illustrate the bracket 10 in isolation. Best shown in Figure 1, the side 18 defining the opening 26 is an operatively top side 18 and the side 20 accessible through the opening 26 is an operatively bottom side 20. The back-plate 16 is configured as a planar panel and each side 18, 20 is configured to extend perpendicularly to the back-plate 16. In the illustrated embodiment, the bracket 10 is formed from bent sheet metal. In other embodiments (not shown), the bracket 10 is formed from one or more plastic mouldings, or a cast structure.

[0021] The top side 18 includes a pair of spaced tabs 30, 32. Each tab 30, 32 extends perpendicularly to the back-plate 16 to define the opening 26 between the tabs 30, 32. Best shown in Figure 2, the opening 26 is defined by a U-shaped slot cut through the top side 18 to form the flanking tabs 30, 32. In other embodiments (not shown), the tabs 30, 32 extend directly from the back-plate 16. In yet other embodiments (now shown), the opening 26 is defined by one or more apertures extending through the top side 18.

[0022] The top side 18 is a continuation of the back-plate 16, defined by a bend of the sheet metal, and defines the same width as the back-plate 16. In other embodiments (not shown), the side 18, or the tabs 30, 32, are configured to be spaced inwardly within the width of the back-plate 16.

[0023] The bottom side 20 is configured to optimise surface area available for fixing fasteners into within the space limitations defined by the installation environment. In the illustrated embodiment, the bottom side 20 includes a further tab 34 extending perpendicularly to the back-plate 16. Best shown in Figure 3, the back-plate 16 defines a width dimensioned to be substantially equal to a width of the stud 14. The tab 34 defines a width which is less than the width of the back-plate 16 such that the tab 34 defines opposed side-walls spaced in-board of the back-plate 16. Dimensioning the tab 34 in this way allows fitting the tab 34 within an internal region of the header 12, as shown in Figs. 4 and 5. In other embodiments (not shown), the bottom side 20 is a continuation of the back-plate 16, defined by a bend of the sheet metal, and defines the same width as the back-plate 16.

[0024] In the illustrated embodiment, the back-plate 16 and the top side 18 define a plurality of apertures 36, each dimensioned to receive a fastener 28. The bottom side 20 does not define any apertures, instead forming a continuous plate to allow fixing fasteners through the bottom side 20 from operatively above, such as when fixing the bracket 10 above a door frame, or from operatively below, such as when fixing the bracket 10 above a window frame.

[0025] Figures 4 and 5 illustrate a wall framing assembly 100 including the stud 14, the bracket 10 and the header 12. In this embodiment, each of the stud 12 and the header 12 are bent sheet metal structures defining a hollow internal region. The back-plate 16 of the bracket 10 is secured to the stud 14 by a plurality of the fasteners 28, typically being screws although it will be appreciated that other mechanical fasteners, such as rivets, may be appropriate. The tabs 30, 32 of the top side 18 of the bracket 10 are each secured by fasteners 28 to an external surface 22 of

an upper side 104 of the header 12. The tab 34 of the bottom side 20 of the bracket 10 is secured by further fasteners 28 to an internal surface 24 of a lower side 108 of the header 12. In Figures 4 and 5, the fasteners 28 through the bottom side 16 and lower side 108 are shown extending upwards, into the hollow region of the header 12. This arrangement is typically used where the header 12 is part of a window opening. It will be appreciated that the fasteners 28 may be arranged in the inverse orientation, to extend downwards from within the hollow region to extend out of the header 12, such as when the header 12 is arranged adjacent to a door frame, as shown in Fig. 7. It will also be appreciated that drill point type fasteners 28 are appropriate, allowing each fastener 28 to penetrate the header 12 and the tab 34 of the bracket 10.

[0026] In the illustrated embodiment, the header 12 has opposed upper and lower sides 104, 108. The upper side 104 defines an elongate slit 110 along its length. Best shown in Figure 5, the slit 110 is dimensioned to be equal to, or greater than, the opening 26 of the bracket 10. This allows access through the opening 26 to the bottom side 20 of the bracket 10 to allow securing the fasteners 28 through the bottom side 20 of the bracket 10 and through the lower side 108 of the header 12.

[0027] Figures 6 to 8 illustrate assembling the assembly 100 adjacent a prefabricated doorframe 120. In practice, the doorframe 120 is typically installed to, or adjacent, a wall frame before the header 12 is secured between studs 14 and above the doorframe 120.

[0028] Figure 6 shows the bracket 10 spaced above the doorframe 120 and mounted to the stud 14 by four fasteners 28. Figure 7 shows the header 12 placed between the bracket 10 and the doorframe. Figure 8 shows fasteners 28 secured through the top side 18 of the bracket 10 and upper side 104 of the header 12, and fasteners 28 being secured through the bottom side 20 of the bracket 10 and lower side 108 of the header 12 from within the hollow internal region of the header 12.

[0029] The configuration of the disclosed bracket 10 enhances access during installation by allowing access through the opening 26 and to the bottom side 20 of the bracket 10. This allows a user to secure fasteners 28 through the bracket 10 and into the header 12 from within the internal hollow region of the header 12. This is particularly useful when assembling the header 12 to a stud 14 where access to an underside of the header 12 is limited or prevented, such as when a doorframe 120 is already in place in a doorway opening of a wall frame.

[0030] It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the above-described embodiments, without departing from the broad general scope of the present disclosure. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

CLAIMS:

1. A wall framing bracket for securing a header perpendicularly to a stud, the bracket including:

5 a back-plate configured to be secured to the stud; and
opposed sides extending from the back-plate, the sides spaced apart to allow arranging against, and fixing to, opposed surfaces of the header,
wherein one of the sides defines an opening to allow access to the other side to secure one or more fasteners therethrough and into the header.

10 2. The wall framing bracket according to claim 1, wherein the opening is defined between a pair of spaced tabs.

15 3. The wall framing bracket according to claim 1 or 2, wherein the back-plate defines a plurality of apertures, each aperture configured to receive a fastener to allow securing the bracket to the stud.

20 4. The wall framing bracket according to claim 3, wherein at least one of the sides defines a further plurality of apertures, each further aperture configured to receive a fastener to allow securing the bracket to the header.

5. The wall framing bracket according to any one of the preceding claims, wherein the side accessible through the opening defines a width dimensioned to be less than a width defined by the back-plate.

25 6. The wall framing bracket according to claim 5, wherein the width defined by the back-plate is dimensioned to be substantially equal to a width defined by the stud.

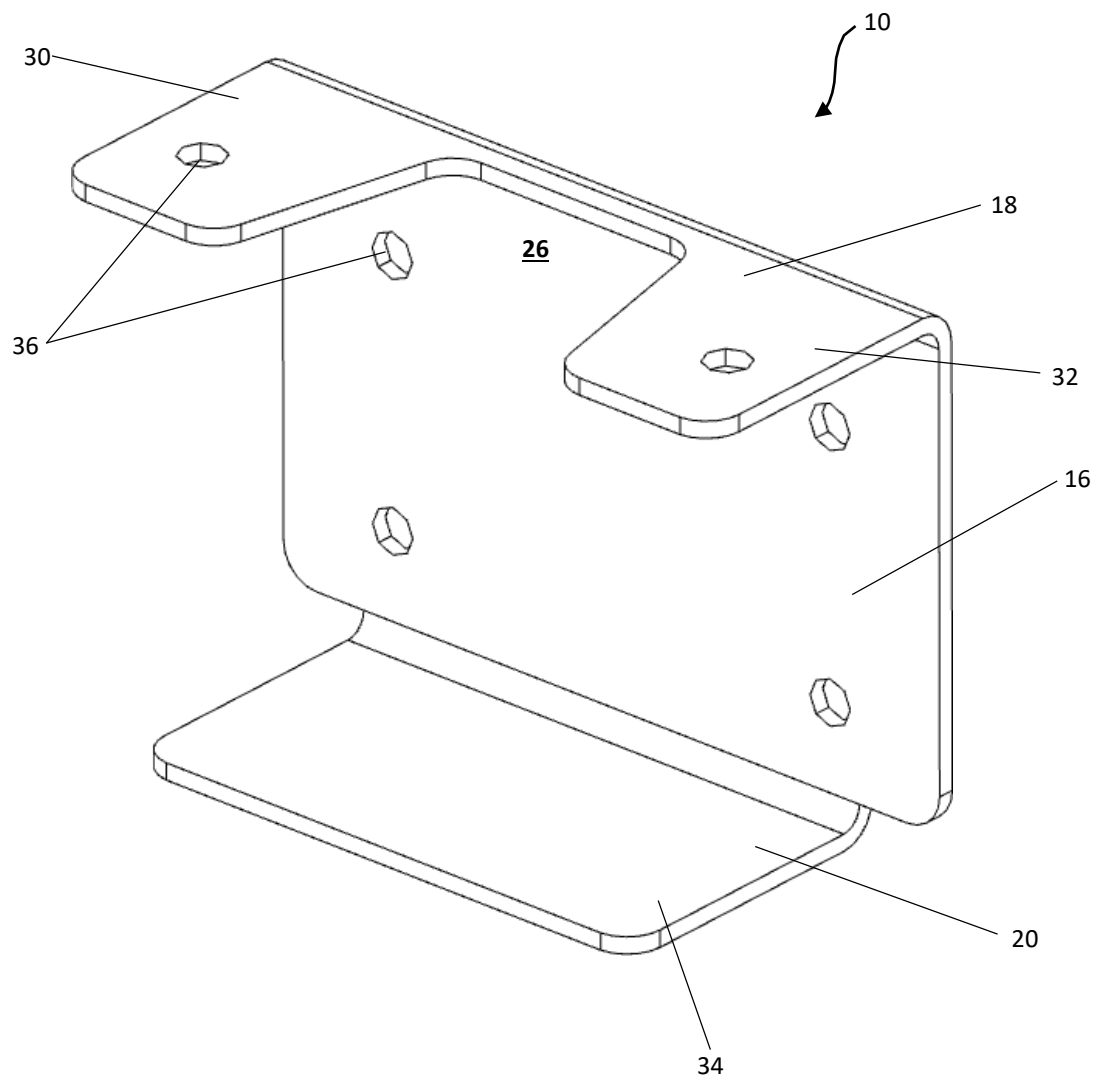
30 7. The wall framing bracket according to claim 5 or 6, wherein the side defining the opening defines a width dimensioned to be equal to the width defined by the back-plate.

8. A wall framing assembly including:
a stud;
a bracket according to any one of the preceding claims; and

a header having opposed sides and defining an elongate slit extending along a length of one of the sides, the slit dimensioned to be equal to, or greater than, the opening of the bracket to allow access through the opening.

ABSTRACT

Wall framing bracket 10 for securing a header 12 to a stud 14. The bracket 10 includes a back-plate 16 configured to be secured to the stud 14, and opposed sides 18, 20 extending
5 from the back-plate 16. The sides 18, 20 are spaced apart to allow arranging against, and fixing to, opposed surfaces 22, 24 of the header 12. One of the sides 18 defines an opening 26 to allow access to the other side 20 to secure one or more fasteners 28 therethrough and into the header 12. Wall framing assembly 100 including the bracket 10 is also disclosed.

**Figure 1**

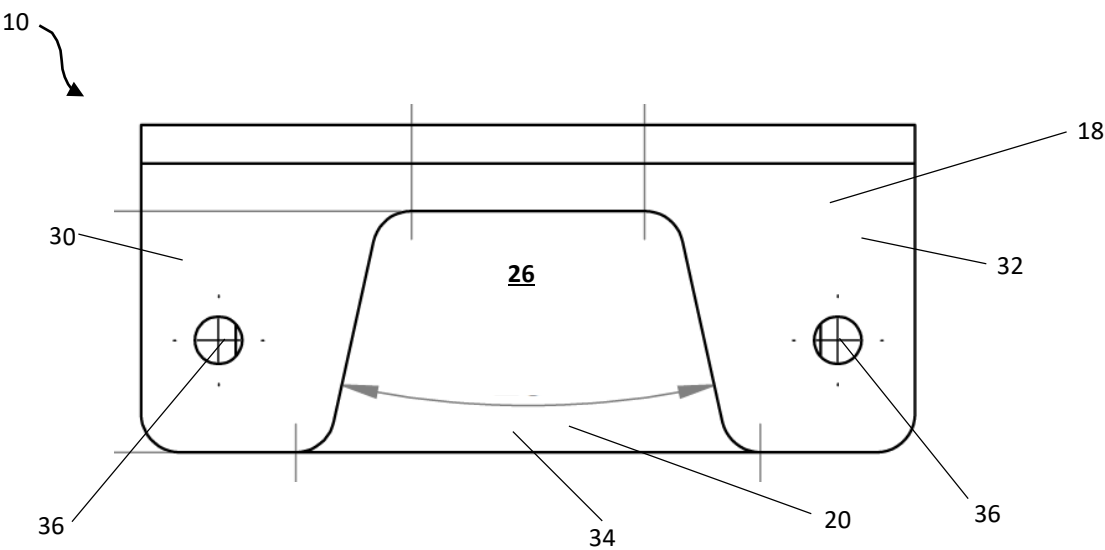


Figure 2

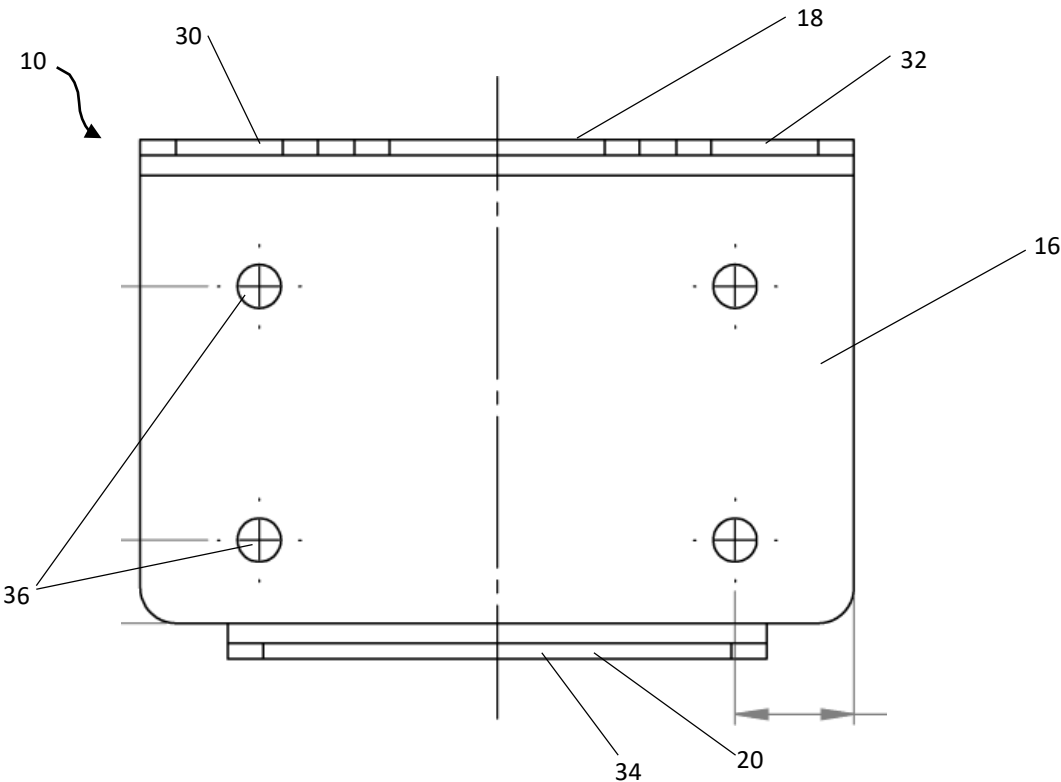
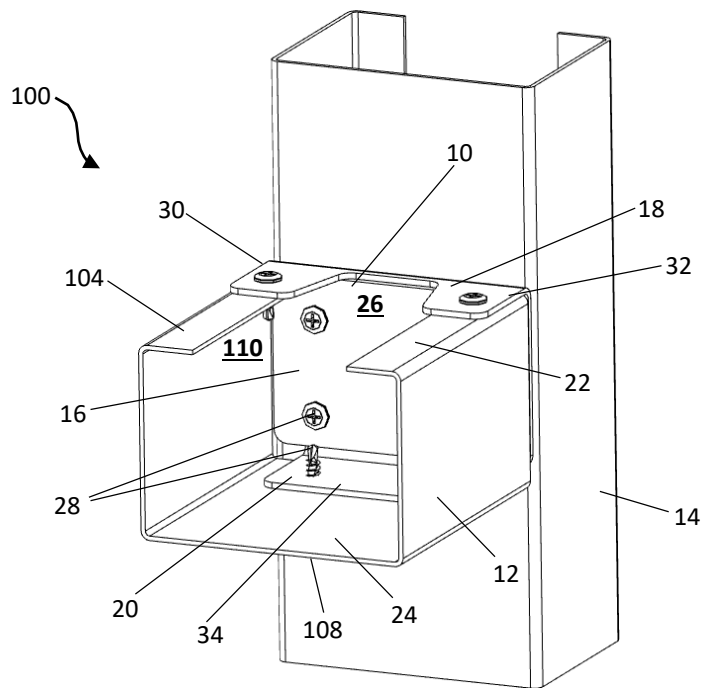
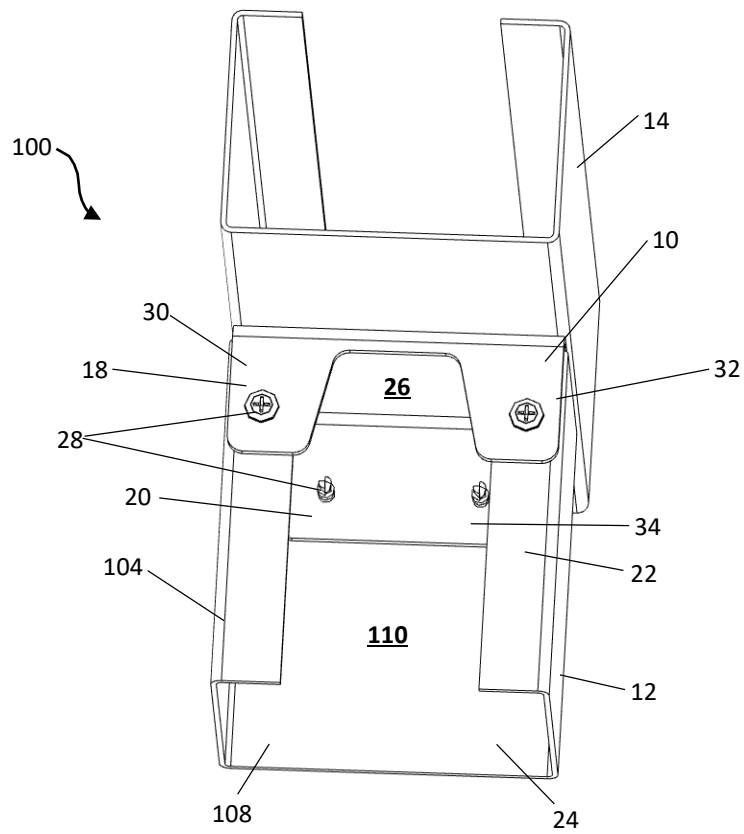


Figure 3

**Figure 4****Figure 5**

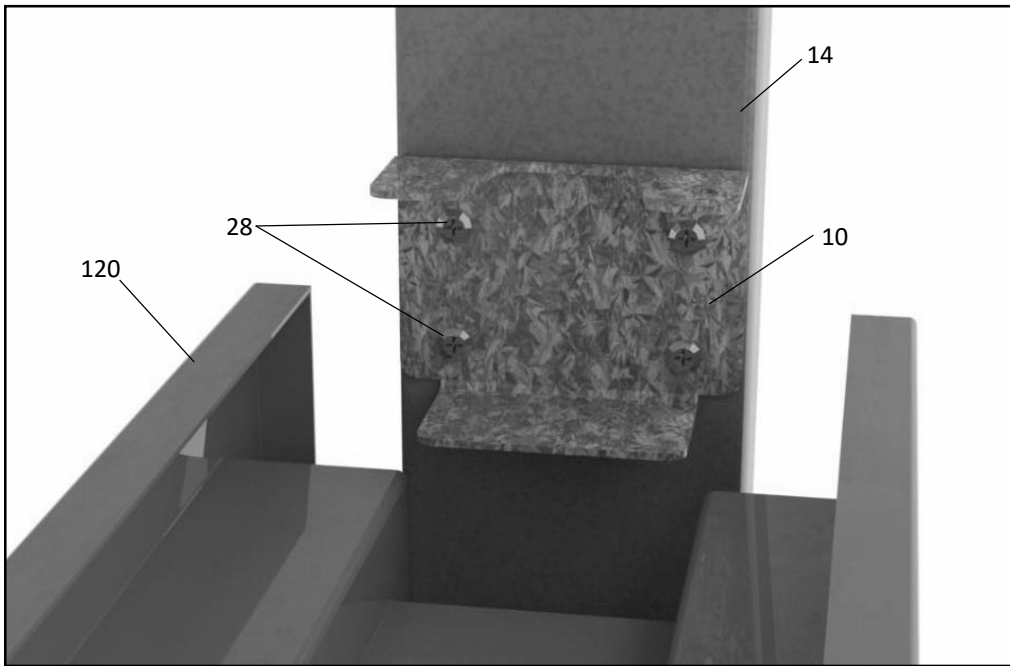


Figure 6

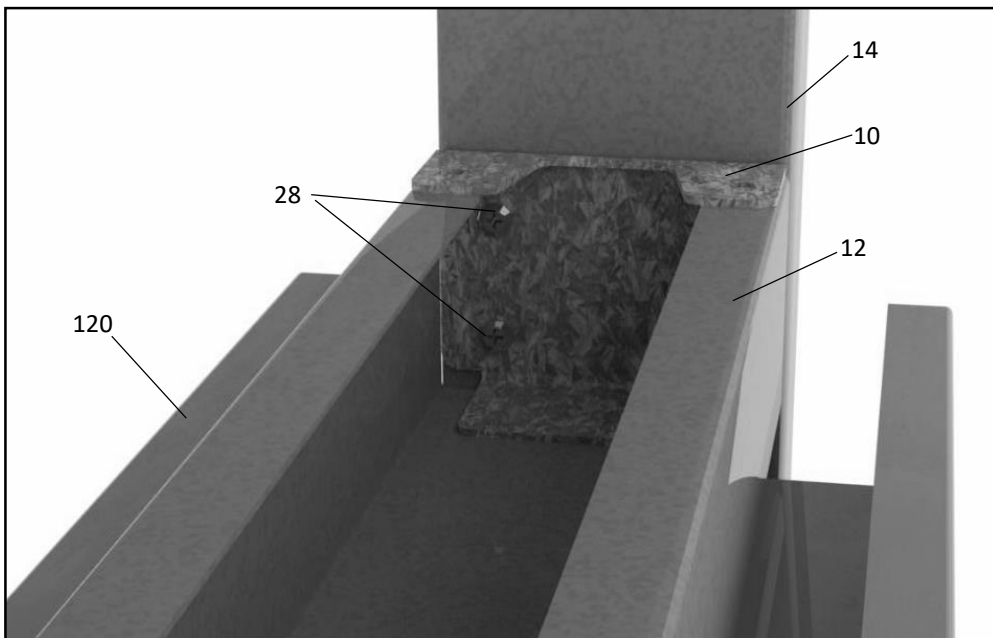


Figure 7

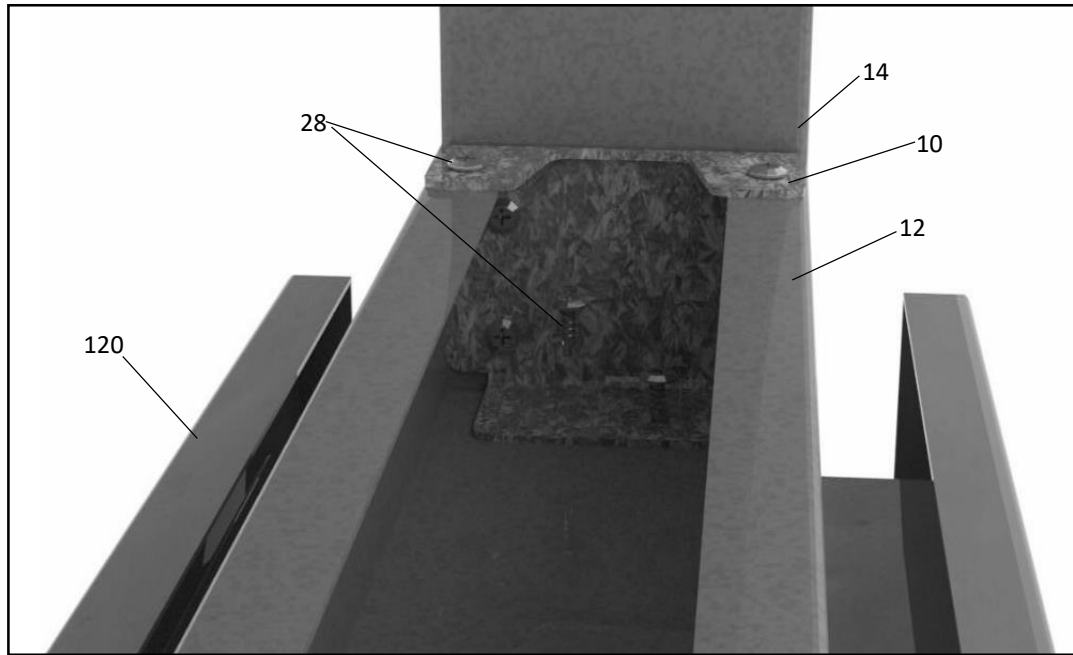


Figure 8



Australian Government

**Patent Office
Canberra**

I, RAJANI RAJARAM, DELEGATE OF THE COMMISSIONER, hereby certify that annexed is a true copy of the Complete specification in connection with Application No. 2021202304 for a patent by ETEX AUSTRALIA PTY LTD as filed on 16 April 2021.

WITNESS my hand this
TWENTY SEVENTH day of April 2022

A handwritten signature in black ink, appearing to read 'Rajani'.

RAJANI RAJARAM
DELEGATE OF THE COMMISSIONER



ABSTRACT

Wall framing bracket 10 for securing a header 12 to a stud 14. The bracket 10 includes a back-plate 16 configured to be secured to the stud 14, and opposed sides 18, 20 extending from the back-plate 16. The sides 18, 20 are spaced apart to allow arranging against, and fixing to, opposed surfaces 22, 24 of the header 12. One of the sides 18 defines an opening 26 to allow access to the other side 20 to secure one or more fasteners 28 therethrough and into the header 12. Wall framing assembly 100 including the bracket 10 is also disclosed.

"Wall framing bracket and assembly"

Technical Field

[0001] The present disclosure relates generally to wall framing used to construct interior or exterior walls of buildings.

Background

[0002] Framing is commonly used to construct interior and exterior walls of buildings. A wall frame is formed from timber or metal frame members and usually includes a plurality of vertically arranged studs connected between spaced top and bottom plates. For interior walls, drywall (also known as plasterboard) panels are secured to the studs.

[0003] A wall frame may define an opening for a window or door. Such openings include a header arranged horizontally between studs across a top of the opening. The header is typically secured to the studs by brackets and fasteners. Header brackets are generally configured as C-section bent sheet metal structures dimensioned to fit to opposed, parallel internal or external surfaces of the header. Assembling the header to the stud involves securing the bracket to the stud, arranging the header within, or around, the bracket, and securing fasteners through opposed top and bottom surfaces of the header and bracket.

[0004] An increasingly common approach to constructing doorways is to install a prefabricated door frame. This is secured within an opening defined by a pair of studs and a header of a wall frame. Using prefabricated door frames can provide various technical advantages. However, when installed, the door frame inhibits or prevents access to an underside of the header, which can complicate assembling the header to the studs.

[0005] Any discussion of documents, acts, materials, devices, articles or the like which has been included in the present specification is not to be taken as an admission that any or all of these matters were common general knowledge in the field relevant to the present disclosure as it existed before the priority date of each of the appended claims.

Summary

[0006] According to one aspect of the disclosure, there is provided a wall framing bracket for securing a header perpendicularly to a stud, the bracket including: a back-plate configured to be secured to the stud; and opposed sides extending from the back-plate, the sides spaced apart to allow arranging against, and fixing to, opposed surfaces of the header, wherein one of the sides defines an opening to allow access to the other side to secure one or more fasteners therethrough and into the header.

[0007] The opening may be defined between a pair of spaced tabs.

[0008] The back-plate may define a plurality of apertures, each aperture configured to receive a fastener to allow securing the bracket to the stud.

[0009] At least one of the sides may define a further plurality of apertures, each further aperture configured to receive a fastener to allow securing the bracket to the header.

[0010] The side accessible through the opening may define a width dimensioned to be less than a width defined by the back-plate. The width defined by the back-plate may be dimensioned to be substantially equal to a width defined by the stud. The side defining the opening may define a width dimensioned to be equal to the width defined by the back-plate.

[0011] According to another aspect of the disclosure, there is provided a wall framing assembly including: a stud; a bracket according to any of the preceding paragraphs; and a header having opposed sides and defining an elongate slit extending along a length of one of the sides, the slit dimensioned to be equal to, or greater than, the opening of the bracket to allow access through the opening.

[0012] Throughout this specification the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated element, integer or step, or group of elements, integers or steps, but not the exclusion of any other element, integer or step, or group of elements, integers or steps.

[0013] It will be appreciated embodiments may comprise steps, features and/or integers disclosed herein or indicated in the specification of this application individually or collectively, and any and all combinations of two or more of said steps or features.

Brief Description of Drawings

[0014] Embodiments will now be described by way of example only with reference to the accompany drawings in which:

[0015] Figure 1 is an isometric view of a wall framing bracket;

[0016] Figures 2 and 3 are top and front views, respectively, of the bracket shown in Figure 1;

[0017] Figures 4 and 5 are two isometric views of a wall framing assembly including the bracket shown in the previous figures; and

[0018] Figures 6 to 8 are each perspective views illustrating assembling the assembly shown in the previous figure above a prefabricated door frame.

Description of Embodiments

[0019] In the drawings, reference numeral 10 generally designates a wall framing bracket 10 for securing a header 12 (Fig. 4) perpendicularly to a stud 14 (Fig. 4). The bracket 10 includes a back-plate 16 configured to be secured to the stud 14, and opposed sides 18, 20 extending from the back-plate 16. The sides 18, 20 are spaced apart to allow arranging against, and fixing to, opposed surfaces 22, 24 (Fig. 4) of the header 12. One of the sides 18 defines an opening 26 to allow access to the other side 20 to secure one or more fasteners 28 (Fig. 4) therethrough and into the header 12.

[0020] Figures 1 to 3 illustrate the bracket 10 in isolation. Best shown in Figure 1, the side 18 defining the opening 26 is an operatively top side 18 and the side 20 accessible through the opening 26 is an operatively bottom side 20. The back-plate 16 is configured as a planar panel and each side 18, 20 is configured to extend perpendicularly to the back-plate 16. In the illustrated embodiment, the bracket 10 is formed from bent sheet metal. In other embodiments (not shown), the bracket 10 is formed from one or more plastic mouldings, or a cast structure.

[0021] The top side 18 includes a pair of spaced tabs 30, 32. Each tab 30, 32 extends perpendicularly to the back-plate 16 to define the opening 26 between the tabs 30, 32. Best shown in Figure 2, the opening 26 is defined by a U-shaped slot cut through the top side 18 to form the flanking tabs 30, 32. In other embodiments (not shown), the tabs 30, 32 extend directly from the back-plate 16. In yet other embodiments (now shown), the opening 26 is defined by one or more apertures extending through the top side 18.

[0022] The top side 18 is a continuation of the back-plate 16, defined by a bend of the sheet metal, and defines the same width as the back-plate 16. In other embodiments (not shown), the side 18, or the tabs 30, 32, are configured to be spaced inwardly within the width of the back-plate 16.

[0023] The bottom side 20 is configured to optimise surface area available for fixing fasteners into within the space limitations defined by the installation environment. In the illustrated embodiment, the bottom side 20 includes a further tab 34 extending perpendicularly to the back-plate 16. Best shown in Figure 3, the back-plate 16 defines a width dimensioned to be substantially equal to a width of the stud 14. The tab 34 defines a width which is less than the width of the back-plate 16 such that the tab 34 defines opposed side-walls spaced in-board of the back-plate 16. Dimensioning the tab 34 in this way allows fitting the tab 34 within an internal region of the header 12, as shown in Figs. 4 and 5. In other embodiments (not shown), the bottom side 20 is a continuation of the back-plate 16, defined by a bend of the sheet metal, and defines the same width as the back-plate 16.

[0024] In the illustrated embodiment, the back-plate 16 and the top side 18 define a plurality of apertures 36, each dimensioned to receive a fastener 28. The bottom side 20 does not define any apertures, instead forming a continuous plate to allow fixing fasteners through the bottom side 20 from operatively above, such as when fixing the bracket 10 above a door frame, or from operatively below, such as when fixing the bracket 10 above a window frame.

[0025] Figures 4 and 5 illustrate a wall framing assembly 100 including the stud 14, the bracket 10 and the header 12. In this embodiment, each of the stud 12 and the header 12 are bent sheet metal structures defining a hollow internal region. The back-plate 16 of the bracket 10 is secured to the stud 14 by a plurality of the fasteners 28, typically being screws although it will be appreciated that other mechanical fasteners, such as rivets, may be appropriate. The tabs 30, 32 of the top side 18 of the bracket 10 are each secured by fasteners 28 to an external surface 22 of

an upper side 104 of the header 12. The tab 34 of the bottom side 20 of the bracket 10 is secured by further fasteners 28 to an internal surface 24 of a lower side 108 of the header 12. In Figures 4 and 5, the fasteners 28 through the bottom side 16 and lower side 108 are shown extending upwards, into the hollow region of the header 12. This arrangement is typically used where the header 12 is part of a window opening. It will be appreciated that the fasteners 28 may be arranged in the inverse orientation, to extend downwards from within the hollow region to extend out of the header 12, such as when the header 12 is arranged adjacent to a door frame, as shown in Fig. 7. It will also be appreciated that drill point type fasteners 28 are appropriate, allowing each fastener 28 to penetrate the header 12 and the tab 34 of the bracket 10.

[0026] In the illustrated embodiment, the header 12 has opposed upper and lower sides 104, 108. The upper side 104 defines an elongate slit 110 along its length. Best shown in Figure 5, the slit 110 is dimensioned to be equal to, or greater than, the opening 26 of the bracket 10. This allows access through the opening 26 to the bottom side 20 of the bracket 10 to allow securing the fasteners 28 through the bottom side 20 of the bracket 10 and through the lower side 108 of the header 12.

[0027] Figures 6 to 8 illustrate assembling the assembly 100 adjacent a prefabricated doorframe 120. In practice, the doorframe 120 is typically installed to, or adjacent, a wall frame before the header 12 is secured between studs 14 and above the doorframe 120.

[0028] Figure 6 shows the bracket 10 spaced above the doorframe 120 and mounted to the stud 14 by four fasteners 28. Figure 7 shows the header 12 placed between the bracket 10 and the doorframe. Figure 8 shows fasteners 28 secured through the top side 18 of the bracket 10 and upper side 104 of the header 12, and fasteners 28 being secured through the bottom side 20 of the bracket 10 and lower side 108 of the header 12 from within the hollow internal region of the header 12.

[0029] The configuration of the disclosed bracket 10 enhances access during installation by allowing access through the opening 26 and to the bottom side 20 of the bracket 10. This allows a user to secure fasteners 28 through the bracket 10 and into the header 12 from within the internal hollow region of the header 12. This is particularly useful when assembling the header 12 to a stud 14 where access to an underside of the header 12 is limited or prevented, such as when a doorframe 120 is already in place in a doorway opening of a wall frame.

[0030] It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the above-described embodiments, without departing from the broad general scope of the present disclosure. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

CLAIMS:

1. A wall framing bracket for securing a header perpendicularly to a stud, the bracket including:
 - a back-plate configured to be secured to the stud; and
 - opposed sides extending from the back-plate, the sides spaced apart to allow arranging against, and fixing to, opposed surfaces of the header,
 - wherein one of the sides defines an opening to allow access to the other side to secure one or more fasteners therethrough and into the header.
2. The wall framing bracket according to claim 1, wherein the opening is defined between a pair of spaced tabs.
3. The wall framing bracket according to claim 1 or 2, wherein the back-plate defines a plurality of apertures, each aperture configured to receive a fastener to allow securing the bracket to the stud.
4. The wall framing bracket according to claim 3, wherein at least one of the sides defines a further plurality of apertures, each further aperture configured to receive a fastener to allow securing the bracket to the header.
5. The wall framing bracket according to any one of the preceding claims, wherein the side accessible through the opening defines a width dimensioned to be less than a width defined by the back-plate.
6. The wall framing bracket according to claim 5, wherein the width defined by the back-plate is dimensioned to be substantially equal to a width defined by the stud.
7. The wall framing bracket according to claim 5 or 6, wherein the side defining the opening defines a width dimensioned to be equal to the width defined by the back-plate.
8. A wall framing assembly including:
 - a stud;
 - a bracket according to any one of the preceding claims; and

a header having opposed sides and defining an elongate slit extending along a length of one of the sides, the slit dimensioned to be equal to, or greater than, the opening of the bracket to allow access through the opening.

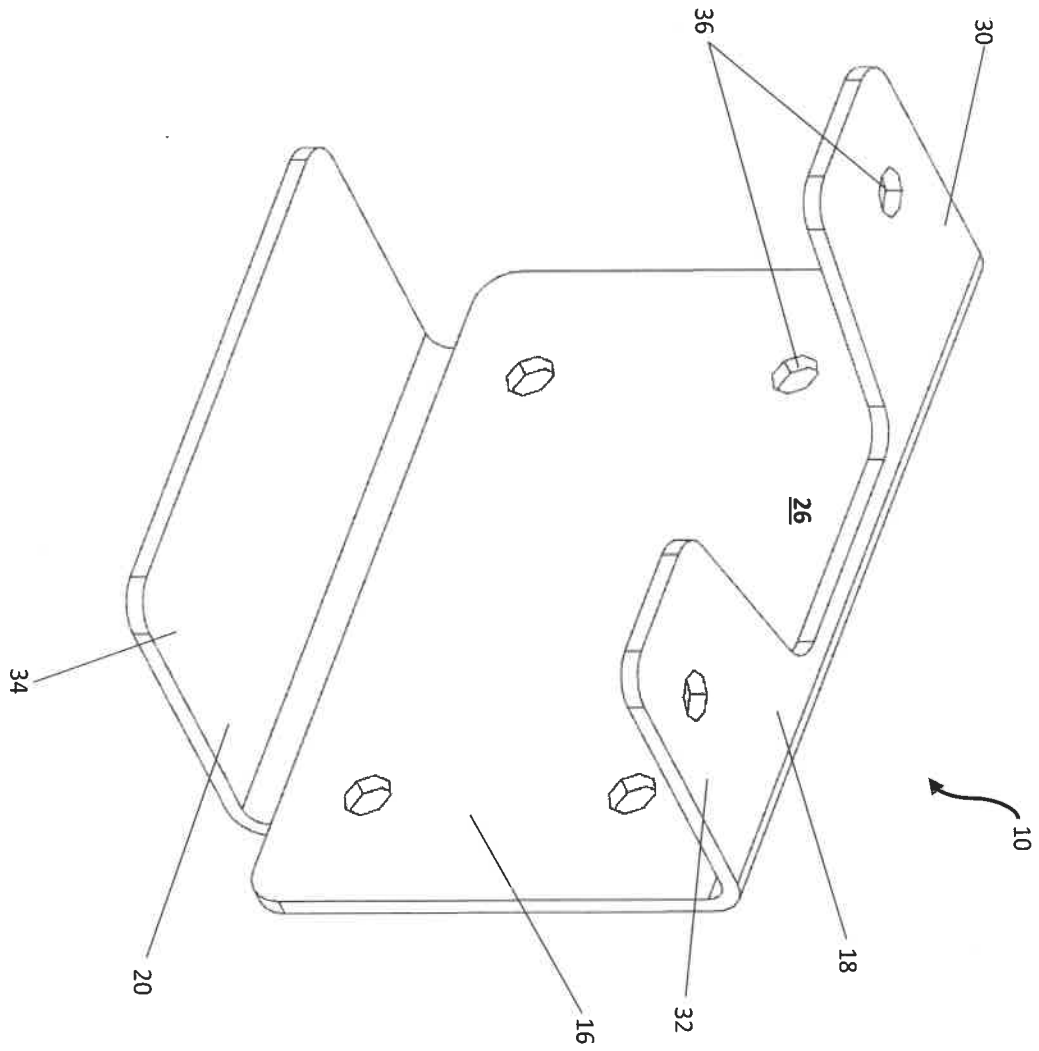


Figure 1

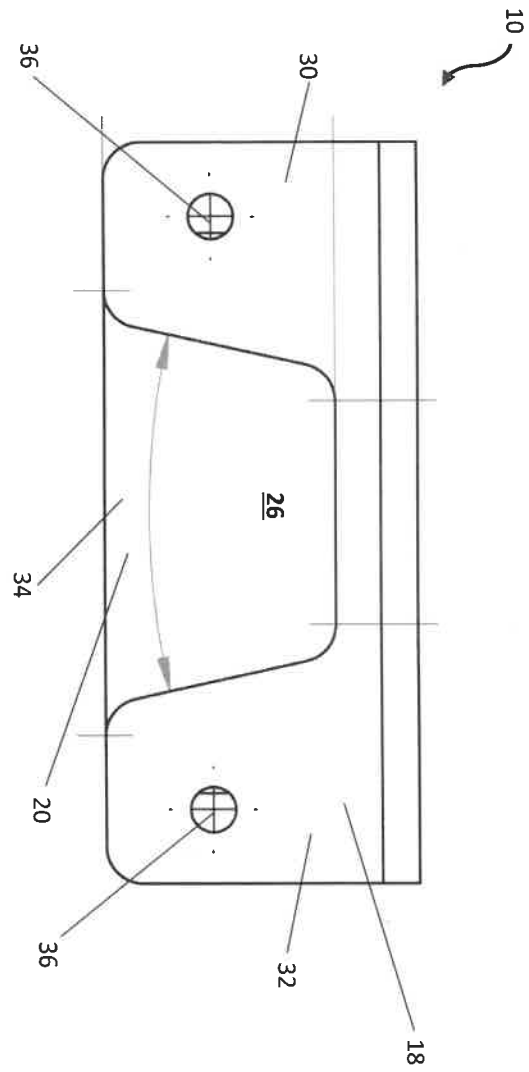


Figure 2

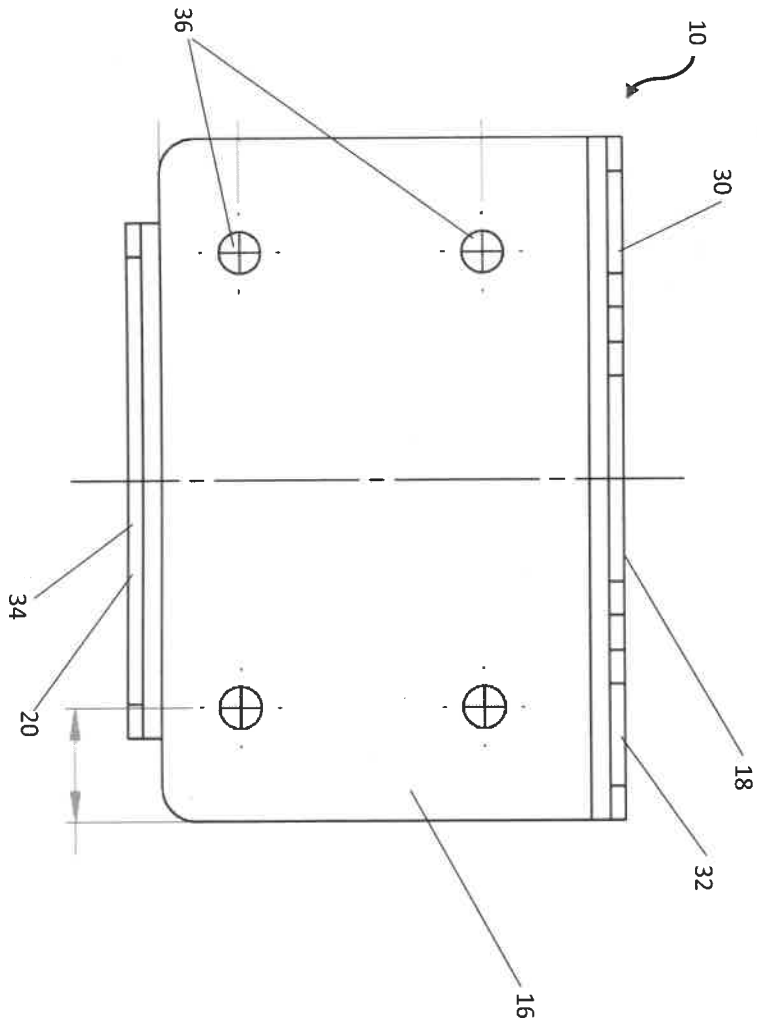


Figure 3

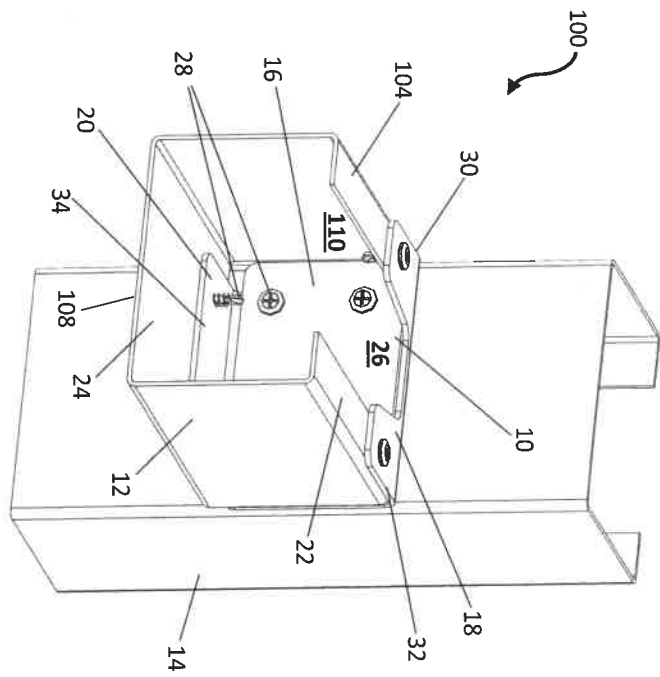


Figure 4

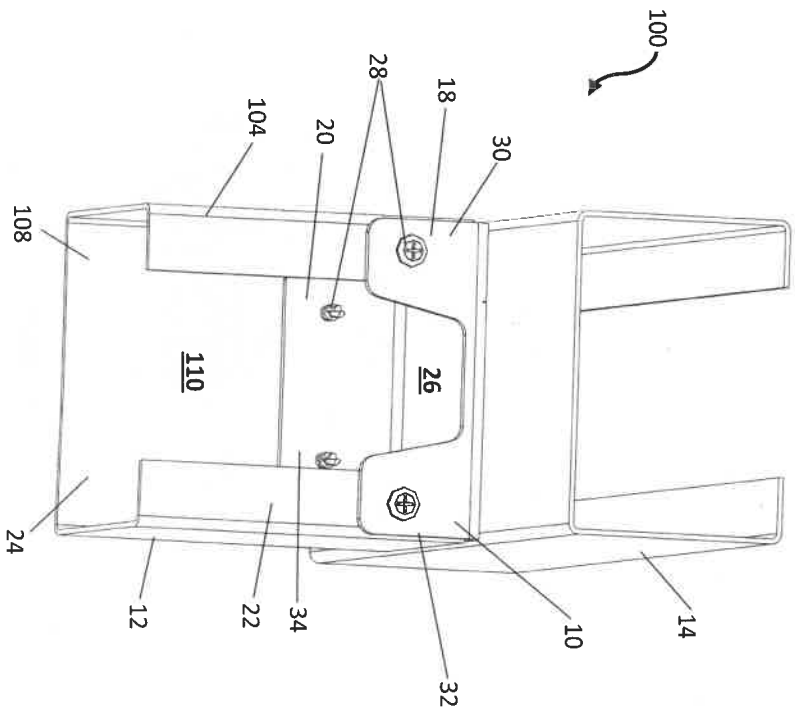


Figure 5

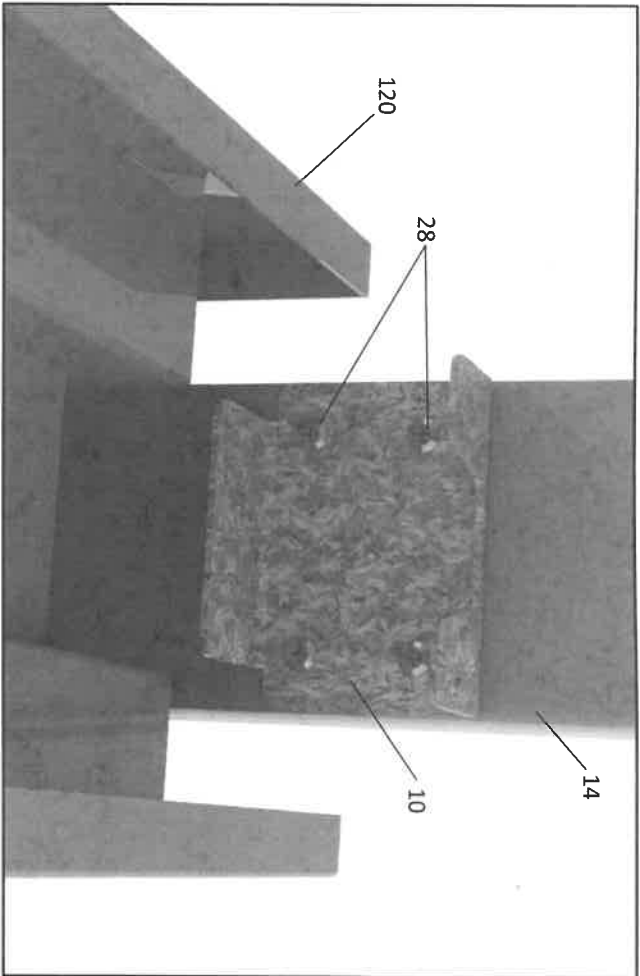


Figure 6

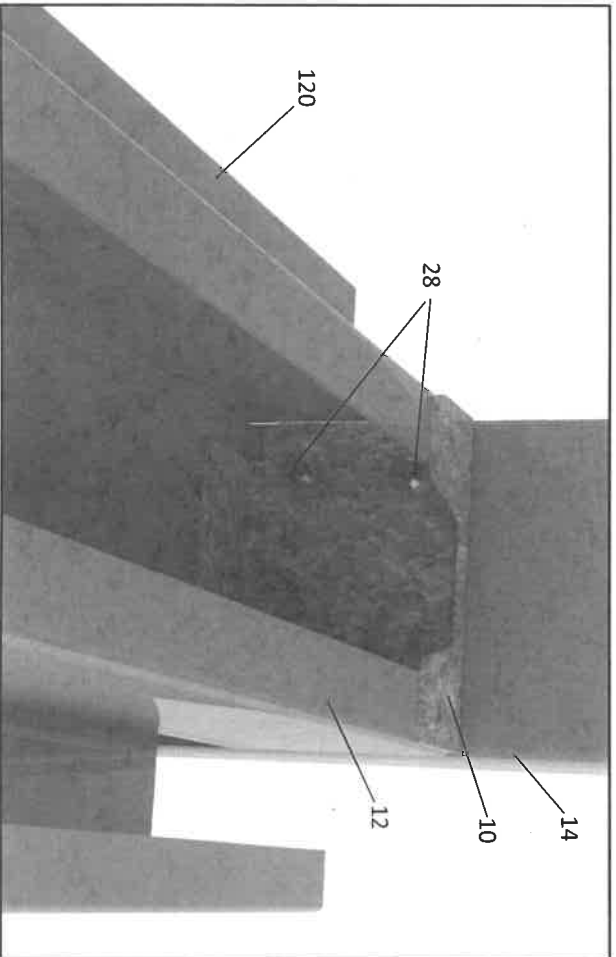


Figure 7

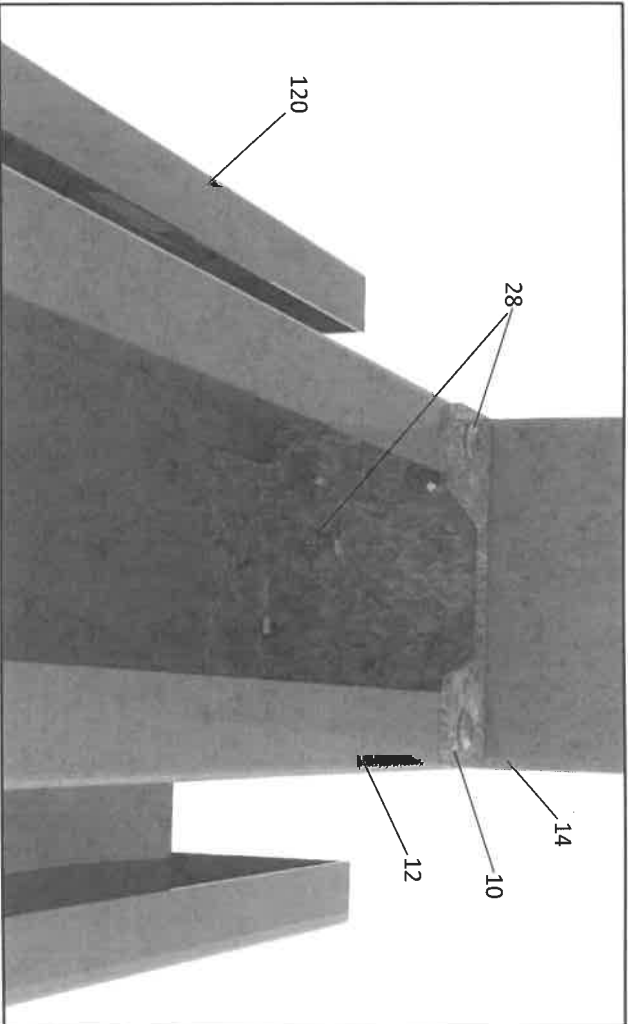


Figure 8