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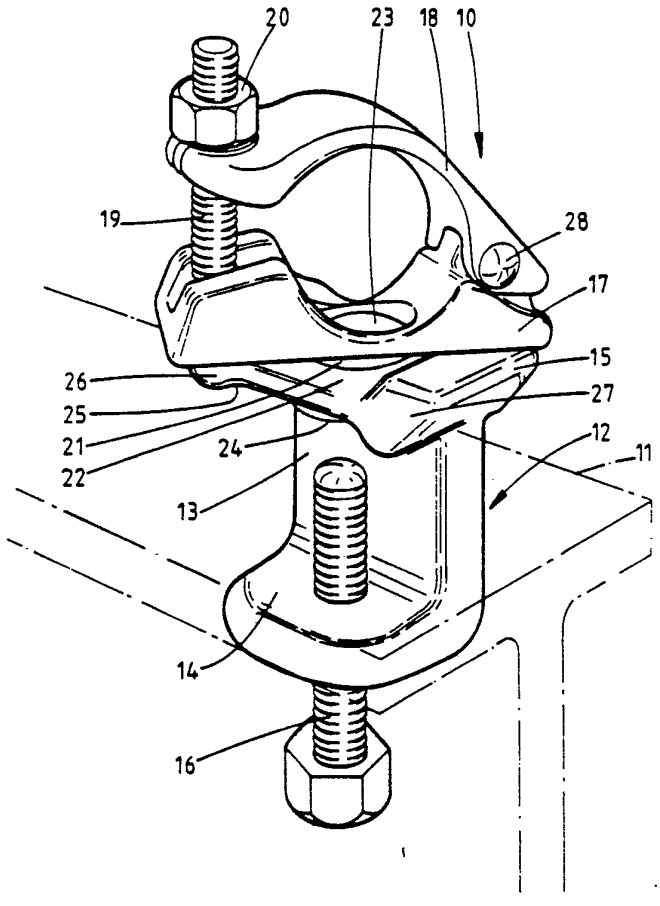
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(54) Title: SCAFFOLDING CLAMP

(57) Abstract

Scaffolding clamp and in accordance with the invention the clamp is formed of a channel-shaped forging (12) which provides a pair of spaced flanges (14, 15) integrally connected by a web portion (13). One of said flanges is provided with a clamping screw (16) for securing the scaffolding clamp to the flange of a flanged structural member whilst the other flange (15) is pivotally connected to the base (17) of a clamping device for an elongate scaffolding member or other elongate member. Said base (17) is pivotally connected at one end to a cover (18) and at the other end to releasable screwthreaded fastening means (19, 20) for securing the cover to the base and the base and said cover have a pair of co-acting seatings for said elongate member.



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"SCAFFOLDING CLAMP"

FIELD OF THE INVENTION

This invention relates to a clamp which is intended for use in connecting an elongate scaffolding member or other elongate member such as a pipe to a flanged structural member such as for example an I-section beam, the clamp being referred to for convenience as a scaffolding clamp. The object of the present invention is to provide such a scaffolding clamp which will be economical to manufacture and yet will be strong and long-lasting in use whilst at the same time offering the facility of connecting the aforesaid members together in a relationship in which they can be arranged in a mutually perpendicular or inclined orientation as may be desired.

SUMMARY OF THE INVENTION

In accordance with the invention there is provided a scaffolding clamp which comprises a body of generally channel-shaped configuration comprising a pair of spaced flanges integrally interconnected by a web portion, one of said flanges being provided with screw-threaded clamping means for clamping the body in use to the flange of a flanged structural member, the other flange of said body being pivotally connected to the base of a clamping device for an elongate scaffolding member or other elongate member, said base having a seating for said elongate member and being itself pivotally connected at one end to a cover having a co-acting seating for said elongate member and at the other end to releasable screw-threaded fastening means for securing the cover to said base.

Preferably, said channel-shaped body is formed as a metal forging and the base and cover of said clamping device may also each be formed as a metal forging. Conveniently, said other flange of the body is formed in each of its two opposite sides with a recess, the outer recess serving to accommodate a projecting boss formed integrally with the base of said clamping device whilst the inner recess serves to accommodate the head of a rivet which forms a pivot between said other body flange and said clamping device base.

DESCRIPTION OF THE DRAWING

The invention will now be more particularly described with reference to the accompanying drawing which is a perspective view of one example of a scaffolding clamp in accordance with the invention.

DESCRIPTION OF ONE EMBODIMENT OF THE INVENTION

Referring now to the drawing there is shown therein a scaffolding clamp generally indicated by reference numeral 10 which is intended for use in clamping an elongate scaffolding tube or other elongate member to a flanged structural member such as an I-section beam, the upper part of such a beam being indicated in chain dotted lines by reference numeral 11.

The clamp as shown includes a body 12 which is formed as a metal forging so as to comprise a web portion 13 which integrally connects a flange 14 and a further flange 15, the web portion and two flanges thus forming an open channel-shaped configuration in which said flanges extend generally at right angles to the plane of the web portion 13.

The flange 14 is formed with a screw-threaded hole through which projects a clamping screw 16 which is arranged in use to secure the clamp to the flanged structural member 11, the flange or one of the flanges of such member extending in its clamped position between the free end of the clamping screw 16 and the underside of said flange 15 of the body 12.

There is also provided a clamping device comprising a base 17 a cover 18 and screw-threaded fastening means in the form of a bolt 19 and nut 20. The base 17 of said clamping device is pivotally connected to the flange 15 of the body 12 and said base is conveniently also formed as a metal forging. As shown the forging is formed so that the underside of said base 17 has an integrally formed downwardly extending generally cylindrical boss 21 which is located in a recess 22 formed on the upper side of said flange 15. Said boss is formed with a central aperture through which extends the stem of a rivet formed with an enlarged upper end 23 which is located within a recess formed in the base 17. The lower end of said rivet is enlarged to form a head 24 which lies within a further recess 25 formed in the underside of the flange 15 of the body 12. Thus the flange 15 is formed so as to provide at its ends two pads 26 and 27 which are interconnected by a thinner central portion through which the aforesaid rivet extends. The upper part of each pad 26 and 27 lies closely adjacent to the underside of the base 17, there being sufficient freedom between said base and the pads 26 and 27 however to permit the base to pivot freely on the flange 15 when desired. The lower surfaces of said pads 26 and 27 provide flat surfaces against which the upper surface of the aforesaid flange of the flanged member can bear.

The aforementioned cover 18 is also formed as a metal forging and is pivotally connected to one end of said base 17 by means of a pivot pin 28 whilst the other end of said base is pivotally connected to the aforesaid bolt 19 which can be engaged with a slot formed in the free end of the cover 18. The opposed surfaces of said cover 18 and the base 17 are formed with a pair of co-acting seatings which together provide, when the cover is in its relatively closed position as shown in the drawing, a generally cylindrical aperture which is adapted in use to receive the elongate scaffolding member or other elongate member of cylindrical configuration in cross-section. Said elongate member can of course be secured in position in the aforesaid clamping device by closing the cover over the top of said member from a relatively open position and thereafter pivoting the bolt 19 to engage with the cover 18, the nut 20 then being tightened on the bolt 19 to secure the elongate member in position.

A scaffolding clamp as above described can be used to connect the elongate scaffolding member or other elongate member to a flanged structural member so that the two members either extend in a mutually perpendicular relationship or alternatively in an inclined relationship. In either case a single scaffolding clamp as above described can be used but in this case both of the two members being connected together will have to be secured elsewhere in order to prevent relative turning movement about the rivet connecting the aforesaid body 12 and base 17 after the two members have been set in the desired orientation. Alternatively two scaffolding members as above described can be used to set and fix the two members being clamped in any desired relative orientation. For example if said two members are to be connected in a mutually

perpendicular relation then two scaffolding clamps would be secured to opposite sides of the flange of the flanged member 11, said two clamps then being located directly opposite to each other on opposite edges of the member 11. If on the other hand it is desired to set the elongate scaffolding member so that the two members are in the relatively inclined orientation, then in this case two scaffolding clamps would be used and would be secured to opposite edges of the flange of the flanged structural member 11 as before but in this case said two clamps would be staggered relative to the length of said member 11 in order to give the desired angle of inclination between the structural member and the elongate scaffolding member. In either case however the use of two scaffolding clamps as above described will of course fix the elongate scaffolding member in position notwithstanding that the base 17 of each scaffolding clamp is freely pivotable on its associated flange 15.

Claims:

1. A scaffolding clamp comprising a body (12) of generally channel-shaped configuration comprising a pair of spaced flanges (14 and 15) integrally interconnected by a web portion (13), one of said flanges (14) being provided with screw-threaded clamping means (16) for clamping the body in use to the flange of a flanged structural member, the other flange (15) of said body being pivotally connected to the base (17) of a clamping device for an elongate scaffolding member or other elongate member, said base (17) having a seating for said elongate member and being itself pivotally connected at one end to a cover (18) having a co-acting seating for said elongate member and at the other end to releasable screw-threaded fastening means (19, 20) for securing the cover to said base.

2. A scaffolding clamp as claimed in Claim 1 wherein said channel-shaped body (12) is formed as a metal forging.

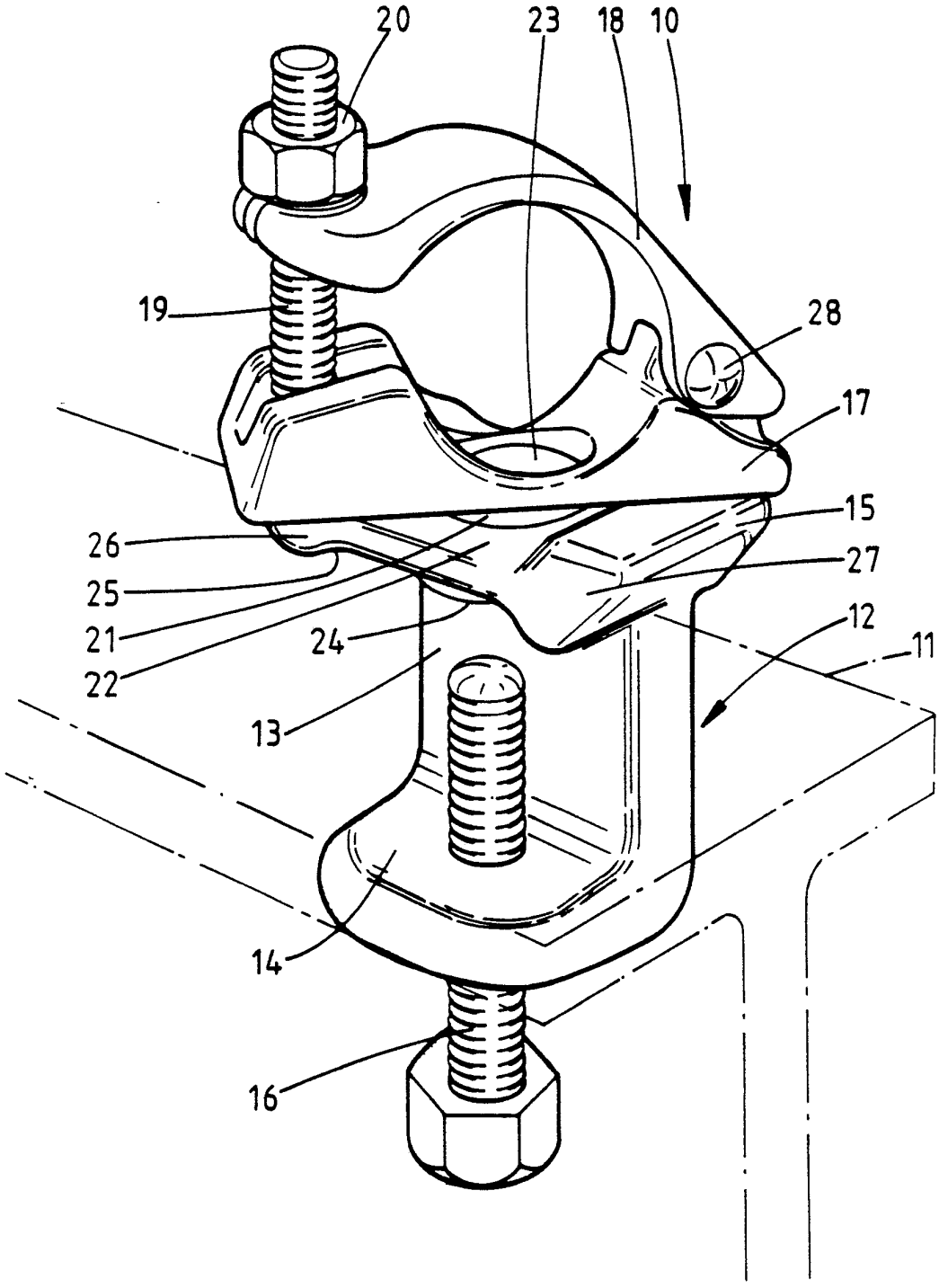
3. A scaffolding clamp as claimed in Claim 1 or Claim 2 wherein said base (17) and cover (18) of said clamping device are each formed as a metal forging.

4. A scaffolding clamp as claimed in any one of the preceding claims wherein said other flange (15) of the body is formed in each of its two opposite sides with a recess, the outer recess (22) serving to accommodate a projecting boss (21) formed integrally with the base of said clamping device whilst the inner recess (25) serves to accommodate the head (24) of a rivet which

forms a pivot between said other body flange (15) and said clamping device base (17).

5. A scaffolding clamp as claimed in Claim 4 wherein said projecting boss (21) is formed with a central aperture through which the stem of said rivet extends.

6. A scaffolding clamp as claimed in Claim 4 or Claim 5 wherein said other flange (15) of the body is provided at its ends with a pair of spaced pads or thickened portions (26 and 27) between which are disposed said pair of recesses (22 and 25).


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INTERNATIONAL SEARCH REPORT

International Application No PCT/GB 86/00786

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [6]

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC[4]: E 04 G 7/26

II. FIELDS SEARCHED

Minimum Documentation Searched [7]

Classification System	Classification Symbols
IPC[4]	E 04 G

Documentation Searched other than Minimum Documentation to the Extent that such Documents are included in the Fields Searched [8]

III. DOCUMENTS CONSIDERED TO BE RELEVANT [9]

Category [10]	Citation of Document, [11] with indication, where appropriate, of the relevant passages [12]	Relevant to Claim No. [13]
Y	GB, A, 2132679 (BURTON DELINGPOLE & CY. LTD.) 11 July 1984 see page 1, page 2, lines 1-29; figure 1	1,2
A	--	3
Y	GB, A, 1225776 (BURTON DELINGPOLE & CY.) 24 March 1971 see claims and figures	1,2
A	-- DE, C, 944683 (CAMINATI) 30 May 1956	
A	-- GB, A, 2075587 (RAYLOR) 18 November 1981	
A	-- GB, A, 881187 (STRONACH) 1 November 1961	
A	-- EP, A, 0044044 (BURTON DELINGPOLE & CY. LTD.) 20 January 1982	

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* Special categories of cited documents: [10]

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IV. CERTIFICATION

Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report
19th March 1986	1-3 APR 1987
International Searching Authority	**Signature of Authorized Officer**
EUROPEAN PATENT OFFICE	M. VAN MOL

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON

INTERNATIONAL APPLICATION NO. PCT/GB 86/00786 (SA 15574)

This Annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on 26/03/87

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB-A- 2132679	11/07/84	None	
GB-A- 1225776	24/03/71	None	
DE-C- 944683		None	
GB-A- 2075587	18/11/81	None	
GB-A- 881187		None	
EP-A- 0044044	20/01/82	GB-A,B 2079840	27/01/82
		AU-A- 7267981	21/01/82
		US-A- 4439900	03/04/84
		AU-B- 545734	01/08/85