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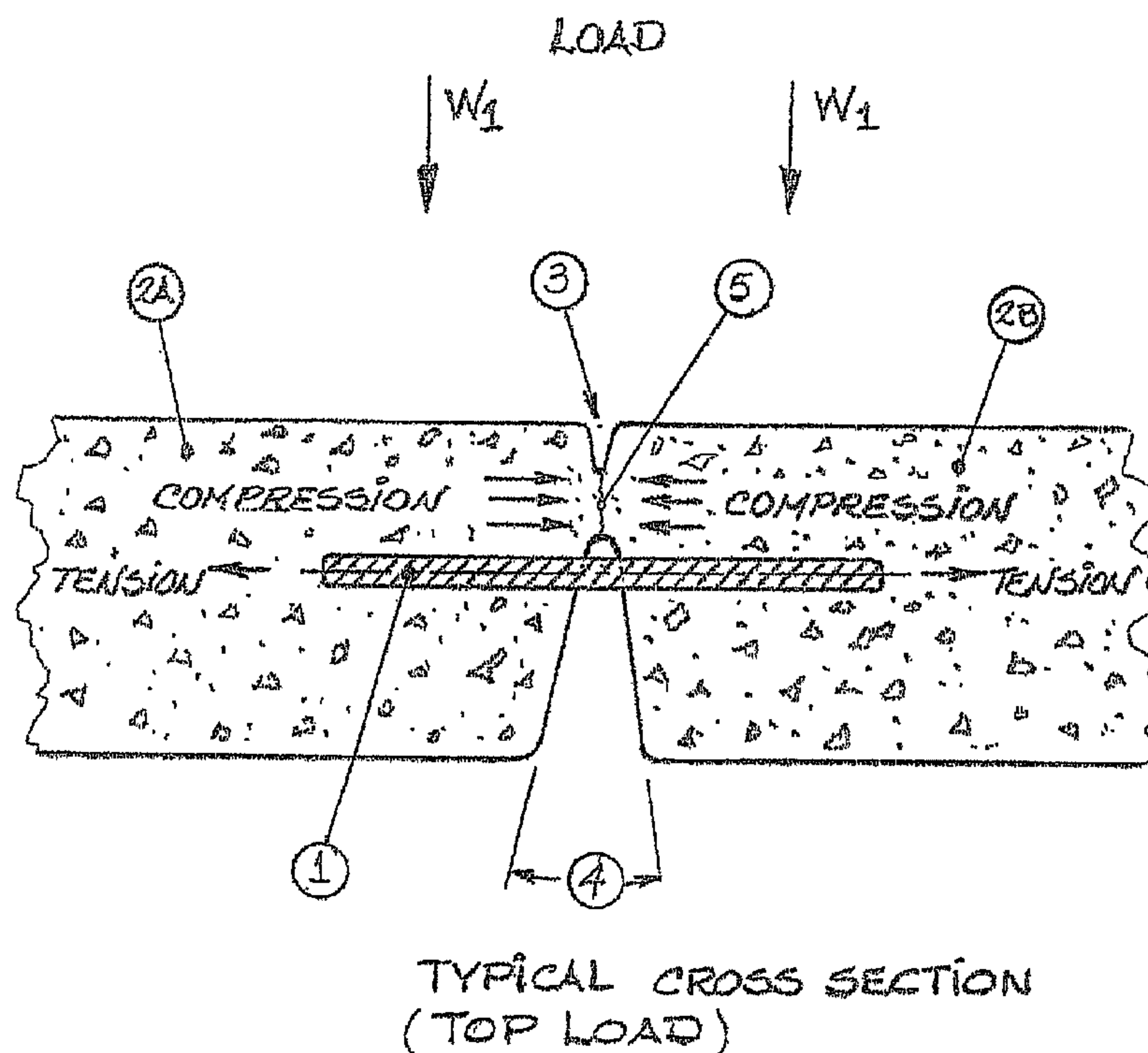
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(54) Titre : RECOUVREMENT DE SOL PAR DES ELEMENTS RACCORDES AVEC JOINT DE RETRAIT ET METHODE DE FABRICATION CONNEXE

(54) Title: GROUND COVERING WITH ELEMENTS CONNECTED WITH A CONTROL JOINT AND METHOD FOR MAKING THE SAME



GROUND COVERING WITH ELEMENTS CONNECTED WITH A CONTROL JOINT AND METHOD FOR MAKING THE SAME

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FIELD OF THE INVENTION

This invention relates generally to ground coverings comprising a plurality of slabs connected together so as to form geometric and ornamental patterns.

BACKGROUND OF THE INVENTION

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Already known in the prior art, there is the prior US patent No. 5,937,602 by the same inventor. The ground cover disclosed therein has a plurality of molds each having a bottom wall and side walls. The molds have their bottom walls laying flat onto the ground and are positioned with their side walls in close adjacent relationship with respect to each other so as to fully cover the ground. Connectors of given flexibility extend through the side walls of pairs of adjacent molds in order to connect the molds to each other. A filling material is poured and hardened into said molds. The filling material acts as a covering. Once installed, the ground cover forms a network that can easily be adapted to floor surfaces of different shapes.

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SUMMARY OF THE INVENTION

An object of the present invention is to provide a ground covering with an improved resistance to freezing and thawing.

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Another object of the invention is to provide a ground covering with an improved resistance to heavy axial load coming from the top and from the bottom of the covering.

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Accordingly, the present invention is directed to a ground covering comprising two or more slabs connected together with a control joint capable of supporting an axial load coming from the top side and pressure coming from the bottom side of the ground covering.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of the invention will become apparent upon reading the detailed description and upon referring to the drawings in which :

- 5 Figure 1 is a cross-sectional view of a control joint connecting two slabs of a ground covering according to a first preferred embodiment of the invention, the slabs being subjected to a top load

Figure 2 is the same view as in figure 1 showing the ground covering being subjected to a bottom pressure.

- 10 Figure 3 is a partial perspective view of a mould suitable for making the ground covering shown in figure 1 and 2.

While the invention will be described in conjunction with an example embodiment, it will be understood that it is not intended to limit the scope of the invention to such embodiment. On the contrary, it is intended to cover all alternatives, modifications
15 and equivalents as may be included as defined by the appended claims.

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring to figure 1 and 2, a control joint (3) according to the invention is shown.

- 20 The control joint comprises a composite rebar (1) embedded into green concrete as a flexible axel, and connects two or more concrete elements(2A et 2B) of same slab. A plurality of that joint (3), from top side view, will reproduce an aesthetic mosaic at any shape and design.

- A typical cross section of the joint (3) comprises the three following elements : first,
25 a bevelled opening at the bottom side (4), second, a common concrete portion (5) of two distinct concrete elements just located over the composite rebar (1) which will

naturally crack during manipulation, and third, this same composite rebar use like an axel (1), will permit a rotation of this two distinct concrete elements on one way only. Then the complete concrete slab produced, will support heavy axial load coming from top side without any flexion(W1) (ref. Fig. 1) and/or will flex or bend under pressure coming from the opposite side (bottom)(W2) (ref. Fig. 2)

One application of that concept permit to manufacture a concrete precast slab for outside or inside ground cover with the ability to accept ground movement or degradation.

10 Example of a method for manufacturing the ground covering: (ref.Fig.3)

Referring to figure 3, one method for manufacturing a ground cover according to the invention is proposed. This method uses the wet cast technique in upside down moulding (finish top is reversed into the mould). The mould comprises ; a mould
15 base (A) used to support a liner (B) , four (4) side parts (C) to delimit the outside dimensions of the slab, and finally a rebar support (D) rested on side parts (C) only on few points (E) all around the mould perimeter.

The liner (B) has raised grooves (F) with different shapes to produce an aesthetic design on the slab top side. A rebar support (D) is set over each raised groove (F) in an alignment relationship therewith and with a specific position to create a
20 certain gap (G) to be filled by poured concrete.

The rebar support (D) itself, uses a steel structure (H) bedded in a flexible rubber (J) provided with slotted holes (K) for introducing the fiber glass rebar (L) in
25 correct position just before pouring the wet concrete. When concrete is cured, and just by pulling on the rebar support (D), the slotted holes will release the fiber glass rebar (L).

Although a preferred embodiment of the present invention has been described in
30 detail herein and illustrated in the accompanying drawings, it is to be understood that the invention is not limited to this precise embodiment and that various changes and

modifications may be effected therein without departing from the scope or spirit of the present invention.

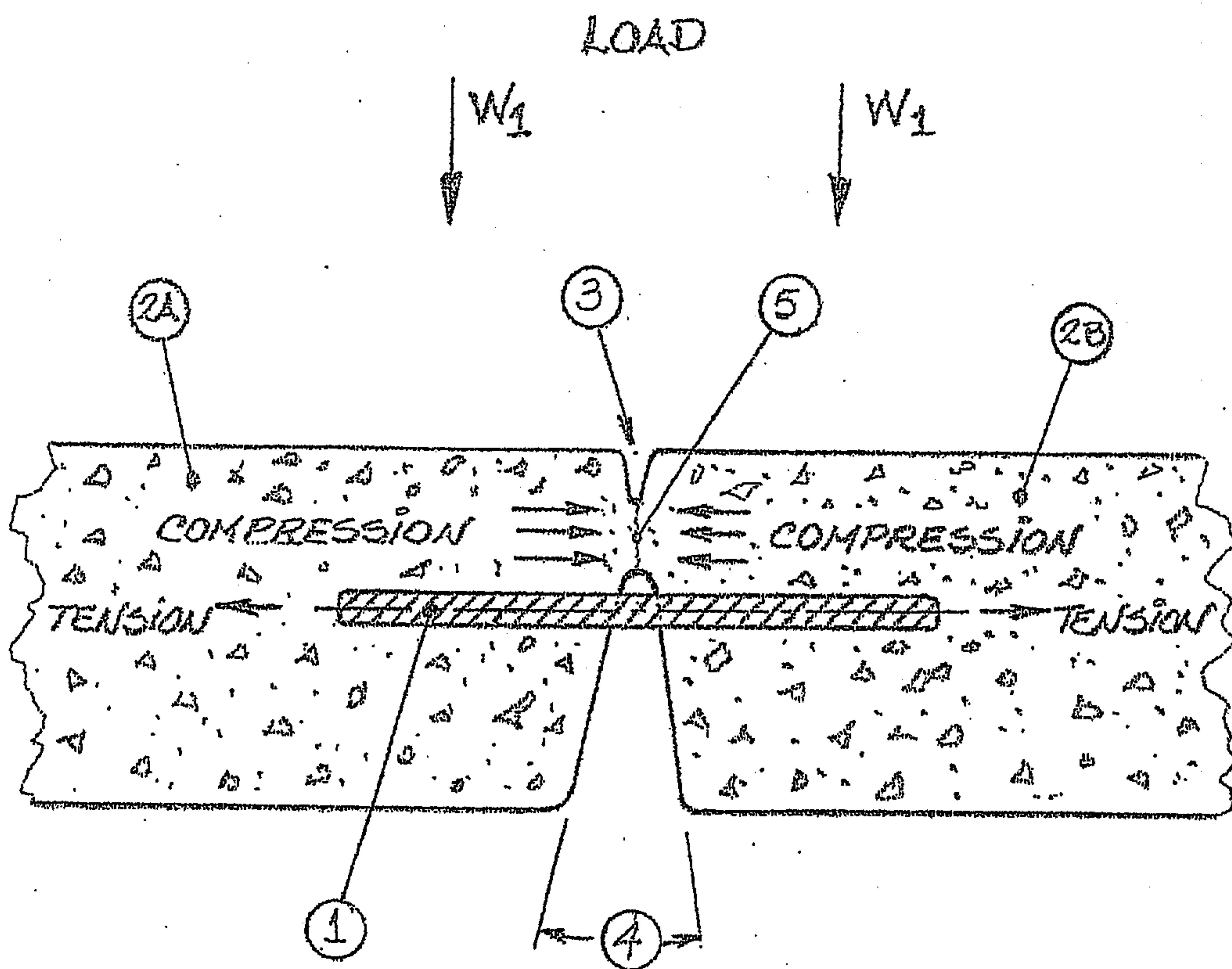


FIG 1 TYPICAL CROSS SECTION
(TOP LOAD)

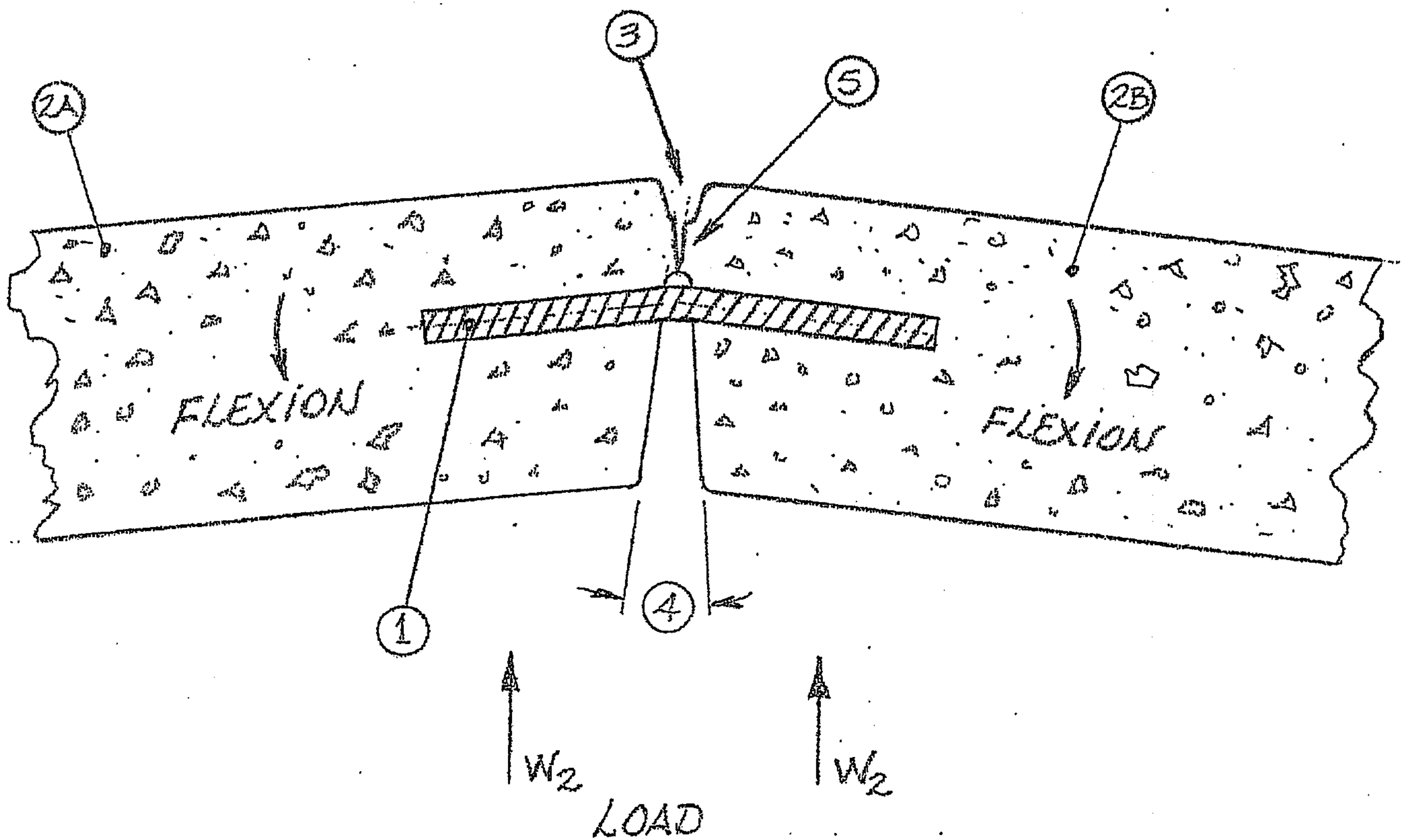


FIG 2 TYPICAL CROSS SECTION
(BOTTOM LOAD)

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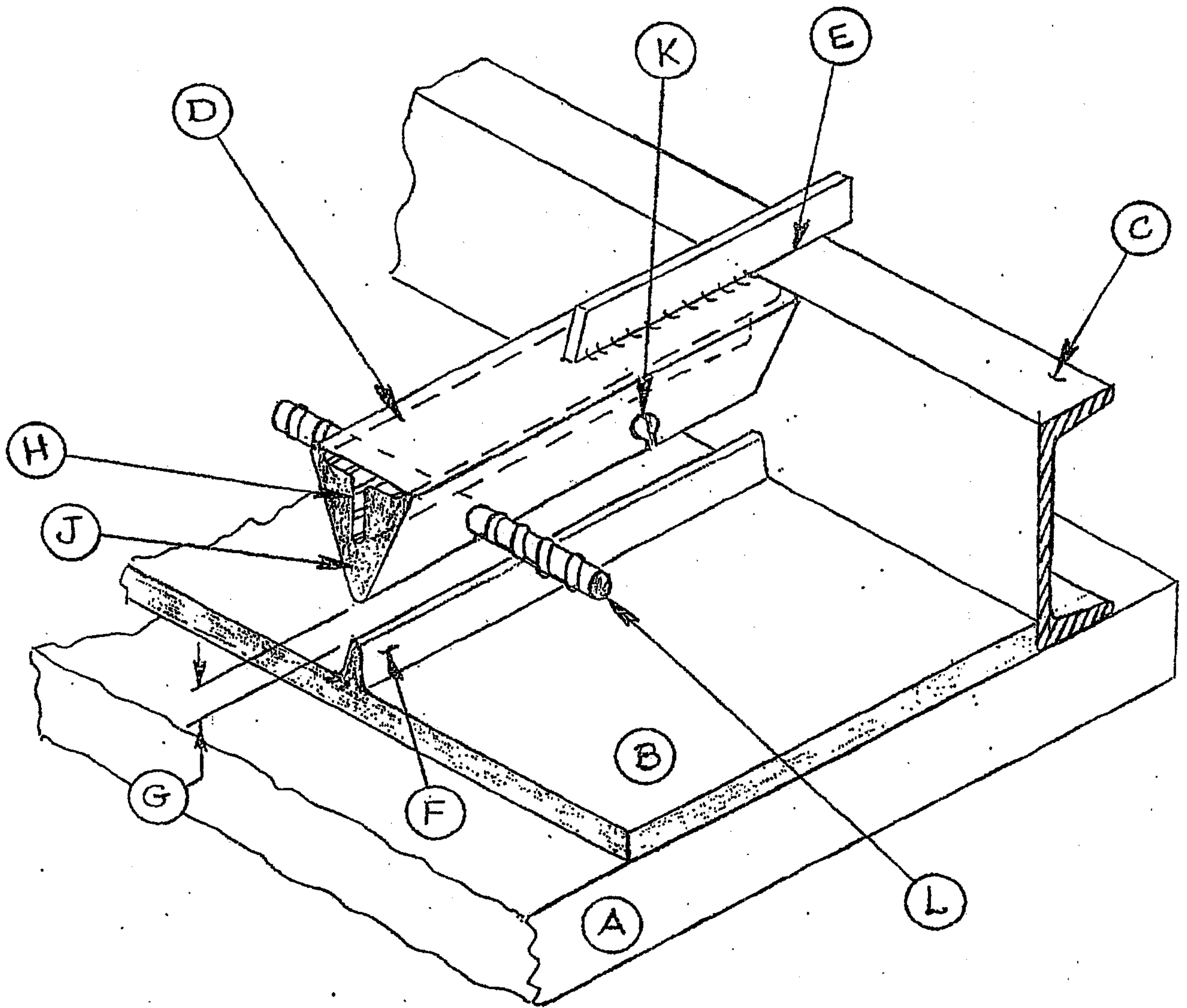


FIG. 3 MOULDING APPARATUS

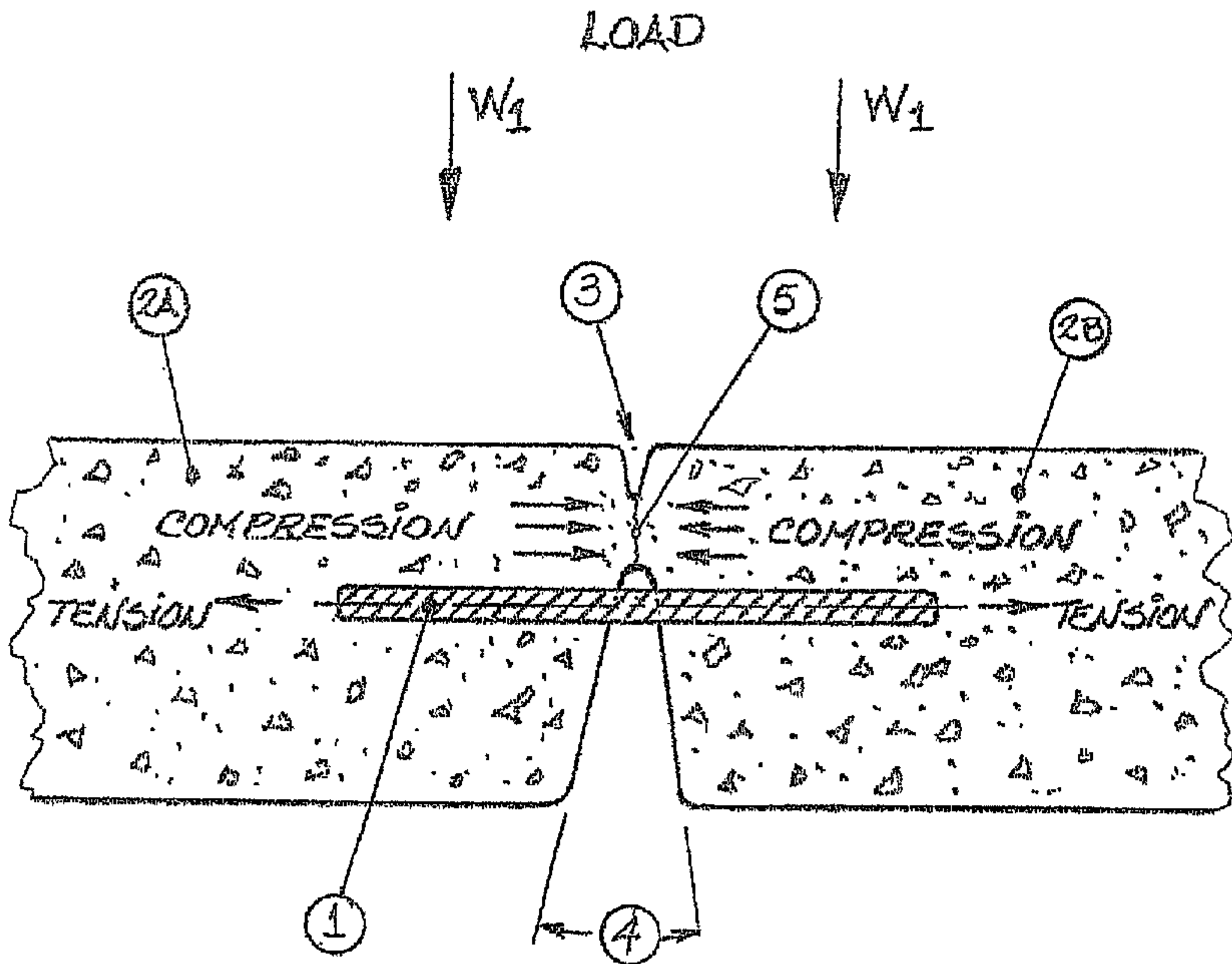
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TYPICAL CROSS SECTION
(TOP LOAD)