May 11, 1943. A. C. FISCHER ET AL 2,319,050

LOAD TRANSFER JOINT APPARATUS FOR PAVING AND THE LIKE

Filed Feb. 26, 1940

Fig. 1.

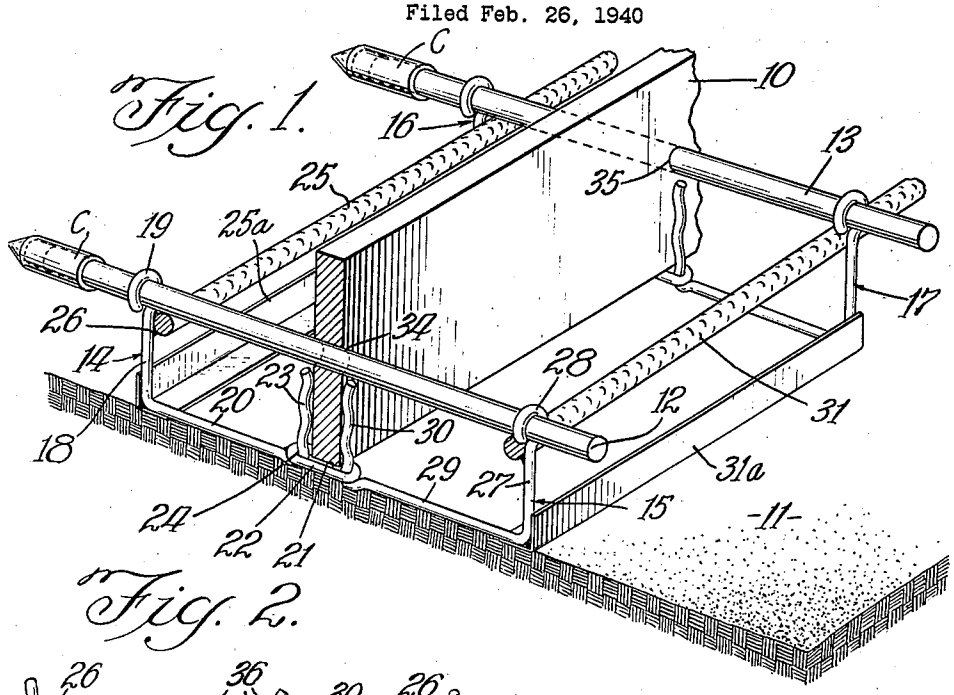
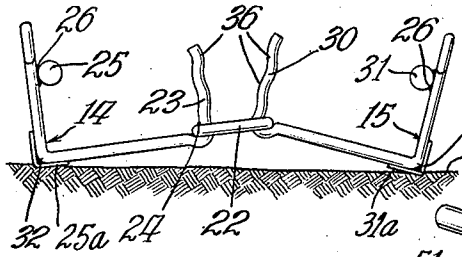
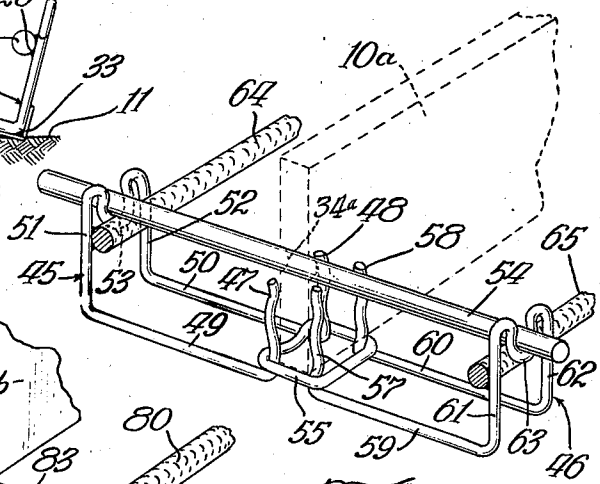


Fig. 2.





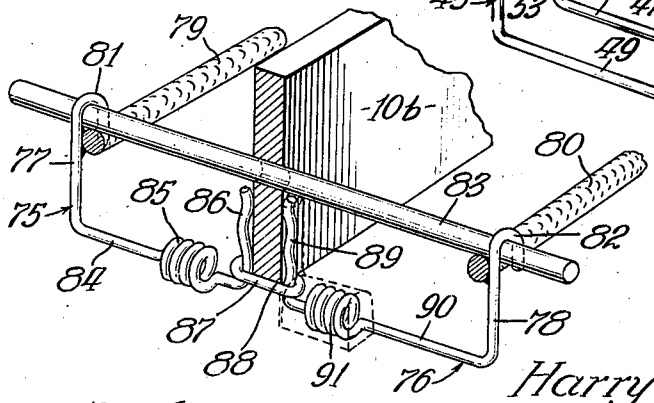


Fig. 3.

Fig. 4.

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LOAD TRANSFER JOINT APPARATUS FOR PAVING AND THE LIKE

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23 Claims. (Cl. 94—18)

This invention has to do with joint forming apparatus of the character employed in the formation of joints between slabs as those in concrete paving, and relates more particularly to apparatus for holding and determining the position of load transfer bars during the pouring and solidification of the concrete.

In the construction of sectionalized concrete highways it is necessary to provide some character of means for holding the adjacent edges of the slabs in the same vertical plane to avoid bumps. Short bars known as load bars or load transfer bars are conventionally employed for this purpose. A plurality of these bars, which are in spaced relation and parallel, are provided at each joint with their opposite ends embedded in the edge portions of the adjacent slabs. These bars have smooth surfaces to enable them to slide telescopically within the slabs in which they are embedded so said slabs may freely expand and contract as they necessarily do with temperature changes. In forming these slabs, compressible boards are supported upright upon and transversely of the road bed respectively at each place a joint is to be formed, at the time the concrete is poured, to separate the poured mass into parts that become the slabs upon hardening. Also, at this time, the load bars must be supported longitudinally of and parallel with the road bed so they will be enveloped by the concrete. It is the purpose of the present invention to provide an expedient structure for so supporting the joint boards and the load bars at these joints.

Further objects of this invention include the provision of:

Improved load bar supporting members easily assembled into a frame which is adapted to hold load bars in predetermined relation with respect to the road bed while the concrete is poured thereabout to form slabs.

Novel load bar supporting members having a hinged connection between them at their bases and joint board abutment parts thereon which are turned divergingly upwardly for readily receiving a joint board when said members are moved upwardly at their hinged connection, and which members, after the board is placed between their abutment parts, are adapted to have their hingedly connected sections pressed downwardly incident to gripping the joint board between said abutment parts.

A new load bar and joint board supporting frame wherein there are supporting parts for engaging the joint board upon opposite sides, and a lost motion connection between said parts to enable their free movement with the slabs, ultimately formed thereabout, into compressed relation with the joint board when said slabs expand.

A load bar and joint board supporting framework in which there are abutment members hingedly connected for clamping upon opposite sides of the joint board, and wherein the abutment members are serpentine or otherwise shaped to provide protuberances for projecting into the sides of the joint board.

A hinged load bar and joint board supporting frame as the above which is adapted to maintain the position in which the joint board abutment members are in their upwardly diverging relation, until forced downwardly into clamped relation with such board.

A load bar and joint board supporting device that includes distensible and collapsible connecting means between its load bar supporting part and its joint board supporting part.

The manner in which the above objects are obtained will be fully understood when reading the following description with reference to the annexed drawing, wherein:

Fig. 1 is a fragmentary perspective view illustrating two pairs of my improved load bar and joint board supporting members co-assembled with reinforcing rods into a frame for supporting a pair of load transfer bars and a joint board;

Fig. 2 is an end view of a frame constructed of paired load bar and joint board supporting members of the type shown in Fig. 1, with the center hingedly connected section elevated to dispose the joint board abutment members in upwardly diverging relation preparatory to receiving a joint board;

Fig. 3 is a perspective view of a modified form of load bar and joint board supporting members in assembled relation with a joint board; and

Fig. 4 is a fragmentary perspective view illustrating a frame including paired load bar and joint board supporting members embodying a third form of the invention.

Referring now to Fig. 1, the joint board 10 there shown extends transversely of a highway road bed, or the like, of which the surface is indicated at 11. This board 10 is for separating bodies of concrete poured upon opposite sides thereof, so that said bodies will, upon solidification, form separate slabs capable of independent expansion and contraction due to temperature changes. Said board is made of compressible material such as comminuted cork held together

with a suitable binder as asphalt. Such a board, in addition to yielding under pressure from the expanding slabs, also expands to keep the space between the slabs filled when they subsequently contract.

My improved structure in Fig. 1 includes pairs of load bar supporting members as 14 and 15 and as 16 and 17 for holding load bars as 12 and 13 longitudinally of and parallel with the road bed. The members 14 and 16 are identical as are the members 15 and 17. Each of the members as 14 has an upright leg as 18 provided with an eye as 19 for receiving a joint bar as 12. Said members as 14 also include a horizontal base section as 20 having an elongated opening as 21 in its extended end. In the present embodiment the openings as 21 are within links as 22 which are slipped respectively over abutment members as 23 which consist of upturned end sections of members as 14. A welded joint is provided as at 24 between each link 22 and its associated member as 14 so these parts are rigidly connected. Said members as 14 are selectively spaced and secured to a reinforcing rod 25 by means of welding at points as 26 a short distance below their eyes as 19. They are similarly secured to a piece of light angle iron 25*a*.

Each of the bar supporting members as 15 comprises an upright leg as 27 having an eye as 28 in its upper end for receiving a section of a load bar as 12. Said load bar supporting members 15 also respectively comprise horizontal base sections as 29 turned upwardly at their ends to effect abutment members as 30. Said members as 15 and 17 are spaced the same distance as are the members as 14 and 16 and welded to a reinforcing rod 31 at points just below their eyes as 28 to maintain them in the assembly illustrated in the drawing. These members are also welded to an angle piece 31*a*.

The load bar supporting members as 14 and 16 may be assembled with their reinforcing rod 25 and their angle piece 25*a* at the factory where they are made, or, because of the comparative ease of welding these parts together, they may be interfabricated upon the job. The same is true with respect to the load bar supporting members 15 and 17 and their reinforcing rod 31 and angle piece 31*a*.

An assembly of members as 14 and 16 with their rod 25 will be carried onto the road bed 11 as will an assembly of the members 15 and 17 with their rod 31, where the abutment members as 30 will be inserted into their respective openings as 21. At that time each pair of abutment members as 23 and 30 will effect side members for a seating means consisting of their associated link as 22 for receiving the lower edge of the joint plank or board 10. The link 22, since it projects endwise from the base section 20 of the member 14, and since said link 22 encloses a space 21 for receiving the abutment members 23 and 30, may be described as an enclosing extension means projecting from the member 14 to lie beneath a plank engaged by said abutment members. The frames comprising the members as 14 and 15 and their associated rods 25 and 31 will then be placed in such a position upon the road bed that said seats will align with that section thereof at which a joint is to be formed between roadway slabs. The lower flanges of the angle pieces 25*a* and 31*a* prevent the heels 32 and 33 of the members 14 and 15 settling into the road bed if it should have a soft surface. Then the extended ends of the base sections 20 and 29 will be raised in some such manner as illustrated in Fig. 2 to cause the abutment members 23 and 30 to extend divergingly upwardly to increase the distance between their upper ends and thus make it easier to insert the lower edge of a board as 10. This elevated condition of the extended ends of the base members 20 and 29 is maintained because of the frictional engagement of the corners of the angle pieces 25*a* and 31*a* with the road bed and because of the frictional engagement of the relatively movable parts at the hinged connections of said members. That is, the width of the elongated opening 21 is such that the sides of said opening bear firmly against the sides of the abutment member as 30 therein. This same effect may be obtained by having the members as 15 and 17 so disposed upon the rod 31 and the angle piece 31*a* that the members 30 will be spaced slightly differently than the openings as 21 in the horizontal base members as 20. Slight distortion of the members as 15 and 17 would then be necessary in order to insert the abutment members as 30 in their respective openings as 21, and the tendency for said members to return to their original positions, due to the resilience of the members 15 and 17, would cause them to bear against a side of their openings as 21 to effect such frictional resistance to pivotal movement and thus resist downward movement of the elevated ends of the base sections as 20 and 29 while pivoting at the pivotal loose joint means interconnecting the same.

It will also be observed that when the load bar supporting members 14 and 15 are tilted as shown in Fig. 2, the rods 25 and 31 which are of relatively great mass are moved outwardly beyond the point of pivot at the heels 32 and 33, to so shift the composite mass of their respective frame sections as to partially counterbalance the weight of the pivotally connected extended ends.

While the abutment members 23 and 30 are elevated as shown in Fig. 2 the joint board 10, which will have been previously drilled or punched to provide load bar receiving holes 34 and 35, will be carried into position and lowered into the seats formed by the abutment members as 23 and 30 and the links as 22. The board 10 will have been arranged axially of the frame so that holes as 34 will align respectively with paired eyes as 19 and 28 upon the load bar supporting members when the board is lowered into some such position as illustrated in Fig. 1. As the board 10 is lowered or pressed downwardly, the abutment members 23 and 30 will clamp tightly thereagainst while slightly embedding the projecting areas as 36 into opposite sides of the board, said members 23 and 30 being made serpentine to provide such areas or protuberances 36. Thus the board 10 will be held in its upright position with its holes as 34 aligned with eyes as 19 and 28; and at this time the load bars as 12 may be inserted telescopically through their respective sets of such holes and eyes.

When all of the load bars as 12 and 13 have been inserted, the concrete may be poured upon opposite sides of the board 10 to form the paving slabs. When these slabs are subjected to increased temperature, as they frequently will while in service in warm weather, and thus caused to expand incident to compressing the board 10 and advancing the abutment members 23 and 30 respectively into and against the opposite faces of the board, the lost motion connections

provided at the hinged sections will permit the abutment members as 30 to advance longitudinally in their openings as 21 to avoid breakage of either of the paired members as 14 and 15. Caps C upon the ends of the load bars as 12 provide space in which the bars can slide axially when the slabs expand.

In that embodiment of the invention shown in Fig. 3 the load bar supporting members 45 and 46 correspond, respectively, to the members as 14 and 15 in Fig. 1. The member 45 is shaped from a rod, of which the end sections are turned upwardly and made serpentine to form joint board abutment members 47 and 48; whereas sections adjacent to the upturned end sections form horizontal base legs 49 and 50; upturned portions adjoining the legs 49 and 50 form vertical legs 51 and 52; and the mid-section of the rod is bent downwardly as an inverted loop 53 to provide a seat for a load bar 54. The loop 53 may be tempered for resiliency and the entrance to it made narrower than the diameter of the rod 54 so said rod may be snapped into the seated position shown.

A link 55 is slipped over the upright ends 47 and 48 of the member 45 and secured to the bases thereof in any suitable manner as by welding to effect an extension of the base legs 49 and 50. Said link 55 is adapted to receive upright end sections of a rod from which the load bar supporting member 46 is made, such end sections constituting joint board abutment members 57 and 58. Said members 57 and 58 are also serpentine for the reason explained above with reference to the abutment members 23 and 30. The abutment members 57 and 58 are freely movable relatively to the leg extension member 55 so as to effect a hinged connection between the members 45 and 46. Horizontal base legs 59 and 60 are embodied by those sections of the rod adjacent to the upturned sections 57 and 58, whereas vertical legs 61 and 62 are formed by adjoining sections, and the center portion of the rod is bent into an inverted loop 63 which constitutes a load bar seat similar in character to that formed by the loop 53.

A plurality of the load bar supporting members 45 will be arranged and selectively spaced along a reinforcing rod 64, as shown, and secured thereto by welding or other suitable bonding means between said rod and the legs as 51 and 52. Likewise, a corresponding number of members 46 will be assembled with and secured to a reinforcing rod 65. In assembling the two rods 64 and 65 and the members 45 and 46, respectively depending therefrom, the abutment members 57 and 58 will be inserted into the opening in the links 55 of the corresponding members 45. The abutment members 57 and 58 will normally be spread apart more distantly than they are when confined by their respective links 55, and the rod from which the members 46 are formed will be resilient in character so there will be a tendency for said members 57 and 58 to spread apart for bearing against opposite sides of the link 55 and thereby retain a firm frictional engagement therewith. Thus when the abutment members upon the members 45 and 46 are lifted as shown in Fig. 2 with respect to the first embodiment of the invention, said abutment members will remain elevated with the opposed thereof in upwardly diverging relation for receiving a board as 10*a*, shown in dotted outline. When a board as 10*a* is seated between the opposed abutment members and pressed downwardly, the members 47 and 48 will clamp upon one side thereof and the members 57 and 58 will clamp against the opposite side. If the load bars 54 have been pre-assembled with the board as 10*a* prior to the seating of the board between the abutment members, said load bars will simply be lowered and snapped into their respective pairs of loops 53 and 63. If, on the other hand, said bars as 54 were not previously assembled with the board 10*a* they may be telescopically assembled with their seats 53 and 63 and their respective holes as 34*a* through the board 10*a*.

A third form of apparatus, shown in Fig. 4, comprises load bar supporting members 75 and 76 arranged in pairs at spaced intervals by attachment of their vertical legs 77 and 78 to reinforcing rods 79 and 80. Each of the members 75 and 76 has a loop as 81 and 82 at its upper end for receiving an end section of a load bar as 83.

The horizontal base leg 84 of the member 75 includes a coiled spring member 85 integral therewith and has upon its more extended portion an upturned section embodying a joint board abutment member 86. A link 87 forms an extension of the base leg 84, and the hole 88 within the link 87 is adapted to receive an abutment member 89 formed by an upturned end section of the load bar supporting member 76. The horizontal leg 90 of the member 76 also includes a coiled spring member, 91, integral therewith.

Assembly of the apparatus shown in Fig. 4 is accomplished in the same manner as has been described hereinabove with respect to the apparatus shown in Fig. 1, and with a frictional drag between the relatively movable parts at the hinged connections of the members 75 and 76. Also, in operation, so far as concerns expansion of the slabs upon opposite sides of a joint board as 10*b*, the apparatus functions similarly to that in Fig. 1, the board 10*b* being compressed incident to such expansion and the abutment members 89 being displaced longitudinally within the elongated openings 88 in which they are respectively disposed. However, because of the action of the springs 85 and 91 the apparatus in Fig. 4 is also adapted to accommodate contraction of the adjacent slabs and the concomitant receding of their adjacent edges. At the time the concrete is poured, each of the springs as 85 and 91 and the abutment members 86 and 89 will be covered with a small hood of paper or other destructible material designed to preclude the concrete from intimately enveloping these parts or filling the space between them and the adjacent face of the joint board. The hoods may be shaped as that illustrated in dotted outline about the spring 91 and the abutment member 89. Hence, after the slabs have solidified, if they should shrink incident to separating their edges adjoining the board 10*b*, the springs 85 and 91 and the abutment members 86 and 89 being unattached to the slabs, the link 87 will prevent said abutment members 86 and 89 from separating while the springs 85 and 91 are extended to permit the vertical legs 77 and 78 and the embedded parts of the horizontal legs 84 and 90 to move with the slabs without material restraint.

While the embodiments of the invention have been described with reference to their installation at the joints in concrete highways, their use

is contemplated in the joints of any type of articulated slab structure.

We claim:

1. Load transfer joint apparatus comprising opposed load bar supporting members, said members including base parts having portions extending toward one another, an upwardly projecting joint board abutting member upon an extending portion of one of said base parts, a vertical-axis opening in a section of said extending portion nearer to the other base part than said abutting member, and an additional joint board abutting member projecting upwardly from the other of said base portions through said opening in opposed spaced relation with the first abutting member, and said opening being oversize with respect to the section of said additional abutting member therein to accommodate relative movement of said load bar supporting members toward or away from one another.

2. In a load transfer joint apparatus, a load bar supporting member comprising a vertical leg, load bar holding means upon said leg, a horizontal base leg extending from said vertical leg and having an elongated hole within and directed lengthwise thereof in an extended portion, and joint board abutting means projecting upwardly from said base leg at a position adjacently to said opening but between at least part of said opening and said vertical leg.

3. In a load transfer joint apparatus, a load bar supporting member comprising a vertical leg, load bar holding means upon said leg, a horizontal base leg extending from said vertical leg and having a vertical-axis hole in an extended portion thereof, and a serpentine joint board abutting member within a plane substantially common with said supporting member and projecting upwardly from said base leg at a position adjacently to but between at least part of said opening and said leg.

4. Load transfer joint apparatus comprising load bar supporting members, said members including base parts extending toward one another, a vertical opening adjacent the extending end of one of said parts, a hook-like section at the extending end of the other of said parts and disposed within said opening to provide a hinged connection between said members to enable them to pivot relatively about a horizontal axis at said connection when the extending ends of said parts are raised or lowered, joint board abutment means respectively carried by said parts substantially in opposed relation and disposed angularly thereto for projecting divergingly upwardly when said ends of said parts are raised, and the sides about said opening being in firm frictional engagement with said vertically extending section to resist downward displacement of the extending ends of said parts.

5. Load transfer joint apparatus comprising load bar supporting members, said members including base parts extending toward one another, a vertical-axis opening adjacent the extended end of one of said parts, a joint board abutting member projecting upwardly from said one base part adjacently to said opening, an additional joint board abutting member projecting upwardly at the extended end of the other base part, said additional abutment member projecting upwardly through said opening to provide a hinged connection between said load bar supporting members and thus enable the extended ends of said base parts to be lifted vertically while pivoting about a horizontal axis in said hinged connection and while disposing said abutment members to project divergingly upwardly, and there being relatively movable surfaces at said hinged connection firmly engaged to frictionally resist downward movement of the projecting ends of said base parts from the lifted position.

6. In a load transfer joint apparatus, a load bar supporting member comprising a generally U-shaped rod having its two end sections bent upwardly in spaced relation to form joint board abutting members, sections adjacent to said end sections laterally spaced from one another and extending in substantially horizontal parallelism, sections adjoining and at the other ends of said adjacent sections bent upwardly in substantially spaced parallelism, and the mid-section of said rod being bent downwardly in the form of an inverted loop to form a seat for a load bar.

7. The combination set forth in claim 6, and wherein the section of said rod forming said loop is resilient so as to yieldingly resist enlargement of the entrance thereto.

8. In a load transfer joint apparatus, a load bar supporting member comprising a generally U-shaped rod having its two end sections bent upwardly in spaced relation to form joint board abutting members, sections adjacent to said end sections laterally spaced from one another and extending in substantially horizontal parallelism. sections adjoining and at the other ends of said adjacent sections bent upwardly in substantially spaced parallelism, the mid-section of said rod being bent downwardly in the form of an inverted loop to effect a seat for a load bar, and a loop member at the bases of said joint board abutting members and extending in substantially the opposite direction therefrom as said parallel adjacent sections.

9. In a load transfer joint apparatus, a load bar supporting member comprising a rod having its two end sections bent upwardly in spaced relation to form joint board abutting members, sections adjacent to said end sections laterally spaced from one another and extending in substantial horizontal parallelism, sections adjoining and at the other ends of said adjacent sections bent upwardly in substantially spaced parallelism, a cooperative load bar supporting member including joint board abutting means extending upwardly therefrom in opposed relation with said abutting members and a loop projecting forwardly from the base of said abutting means to embrace the abutting members of the first named load bar supporting member, said rod being so shaped that said abutting members are normally spaced apart more distantly than when they are disposed within said loop, and said rod also being resilient to urge the embraced abutting members apart for their normal spacing and into frictional engagement with said loop.

10. In a load transfer joint apparatus, a load bar supporting member comprising a vertical leg, load bar holding means upon said leg, and a horizontal base leg having a hole in a portion thereof extending from the vertical leg and including a resilient extensible member in the section thereof adjacent to and between said opening and said vertical leg.

11. In a load transfer joint apparatus, a load bar supporting member comprising a vertical leg, load bar holding means upon said leg, and a horizontal base leg having a hole in a portion thereof extending from the vertical leg and including

extensible means in the section thereof adjacent to and between said opening and said vertical leg.

12. In a load transfer joint apparatus, a load bar supporting member comprising a vertical leg, load bar holding means upon said leg, and a horizontal base leg having a hole in a portion thereof extending from the vertical leg and including a helical spring section disposed substantially co-axially with said horizontal leg in the section thereof adjacent to and between said opening and said vertical leg.

13. In a load transfer joint apparatus, a load bar supporting member comprising a vertical leg, load bar holding means upon said leg, a horizontal base leg extending from the base of said vertical leg and including extensible means, and joint board abutting means projecting upwardly from said base leg at a position beyond said extensible means with respect to said vertical leg.

14. The combination set forth in claim 13, and wherein said extensible means is resilient in character.

15. The combination set forth in claim 13, and wherein said extensible means constitutes a helical spring disposed substantially coaxially with said horizontal leg.

16. Load transfer joint apparatus comprising load bar supporting members aligned transversely of said apparatus, joint plank seating means upon one of said members and extending forwardly therefrom transversely of said apparatus toward the other of said members, said seating means including a lateral section bounding a space backwardly thereof, and connecting means upon the other of said members and insertable behind said transverse section into said space to connect said members for relative pivotal movement about an axis directed longitudinally of said apparatus, and said connecting means being of less extent transversely of said apparatus than said space to effect a lost motion connection between said members whereby they are adjustable transversely of the apparatus.

17. Load transfer joint apparatus comprising load bar supporting members disposed in opposed relation transversely of said apparatus, pivotal loose joint means interconnecting said members for relative pivotal movement about an axis directed longitudinally of said apparatus, and generally upright joint plank abutment members respectively on said supporting members, said abutment members being spaced apart laterally of said apparatus to provide space therebetween for a joint plank laid longitudinally of the apparatus and being so disposed laterally of said apparatus as to effect vertical alignment of at least a portion of such space and of said joint means.

18. In a load transfer joint apparatus, a load bar supporting member comprising a vertical leg, load bar holding means on said leg, a horizontal base leg extending from the foot of said vertical leg and having an opening in an extended portion thereof, and joint board abutting means projecting upwardly from said base leg at a position adjacently to said opening but between said opening and said vertical leg.

19. An expansion joint structure comprising an expansion strip, dowel bars extending through said strip at spaced intervals and perpendicularly thereto, pairs of support members respectively for said dowel bars, the members in each pair being upon opposite sides of the strip and aligned transversely thereof with inner ends adjacently to the strip and with outer ends disposed outwardly therefrom, the members in each pair being provided with a horizontal ground-engaging portion and a vertical leg at each end thereof, the outside legs being provided with dowel bar supporting means to engage and support the ends of their respective dowel bar above said ground-engaging portions, the inside legs being spaced to provide supporting engagement on opposite sides of the joint strip, and connectors respectively for said paired support members, said connectors being welded at the bottom of one of their respective paired support members and extending under the joint strip and loosely engaging the inside vertical leg of the other of such support members to permit hinged movement between the paired support members.

20. Load transfer joint apparatus comprising opposed load bar supporting members, said members including base parts having portions extending generally horizontally toward one another, one of said extending portions being slotted, an upwardly projecting joint board abutting member upon said one extending portion but disposed more distantly from the other base part than the slot in said one portion, connecting means upon the extending portion of the other base part and disposed in said slot to provide a hinged connection between said load bar supporting members facilitating vertical displacement of said extending portions, said slot being oversize with respect to said connecting means to facilitate movement of said members toward and away from one another, and an additional upwardly projecting joint board abutting member connected with said other base part generally in opposed relation with the first abutting member and spaced therefrom in the direction of said other load bar supporting member.

21. In a longitudinal load joint apparatus of the character for supporting therein a joint plank extending lengthwise thereof and with an edge downwardly, paired load bar supporting members each having an outer end portion and an inner end portion and said members being arranged transversely of the apparatus with their inner end portions adjacently disposed, plank abutment means projecting upwardly from the inner end portion of one of said members, said inner end portion including a loop-like part projecting from the foot of said abutment means toward the other member, and an additional plank abutment means upon the inner end portion of the other member projecting through the space embraced by said loop-like part and upwardly in opposed spaced relation with the first abutment means, and said embraced space being oversize with respect to the second abutment means to facilitate displacement of it therein transversely of the apparatus.

22. Load transfer joint apparatus comprising opposed load bar supporting members, said members including respective upright load bar supporting means, base parts extending horizontally toward one another from the bottoms of said supporting means and hingedly connected in their extended portions for relative movement about a horizontal axis normal to said base parts when said extended portions are raised or lowered, joint board abutting means projecting upwardly respectively from said base parts adjacently to the hinged connection, and said abutting means being spaced from one another in the direction of their respective supporting means so

they open divergingly upwardly when said extended portions are raised.

23. Load transfer joint apparatus comprising opposed load bar supporting members, said members including base parts extending generally horizontally toward one another, loose coupled hinge means connecting the extending portions of said base parts for relative movement about a horizontal axis arranged transversely of said members when said extended portions are raised or lowered, said hinge means being connected between said supporting means for affording horizontal relative movement of the supporting means transversely to said axis, spaced apart joint board abutting means projecting upward respectively from said extending portions of said members and spaced from one another toward their respective members, and said abutting means being so positioned that the space therebetween aligns vertically with at least part of said hinge means so that a joint board inserted in said space will cover said part of said hinge means.

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