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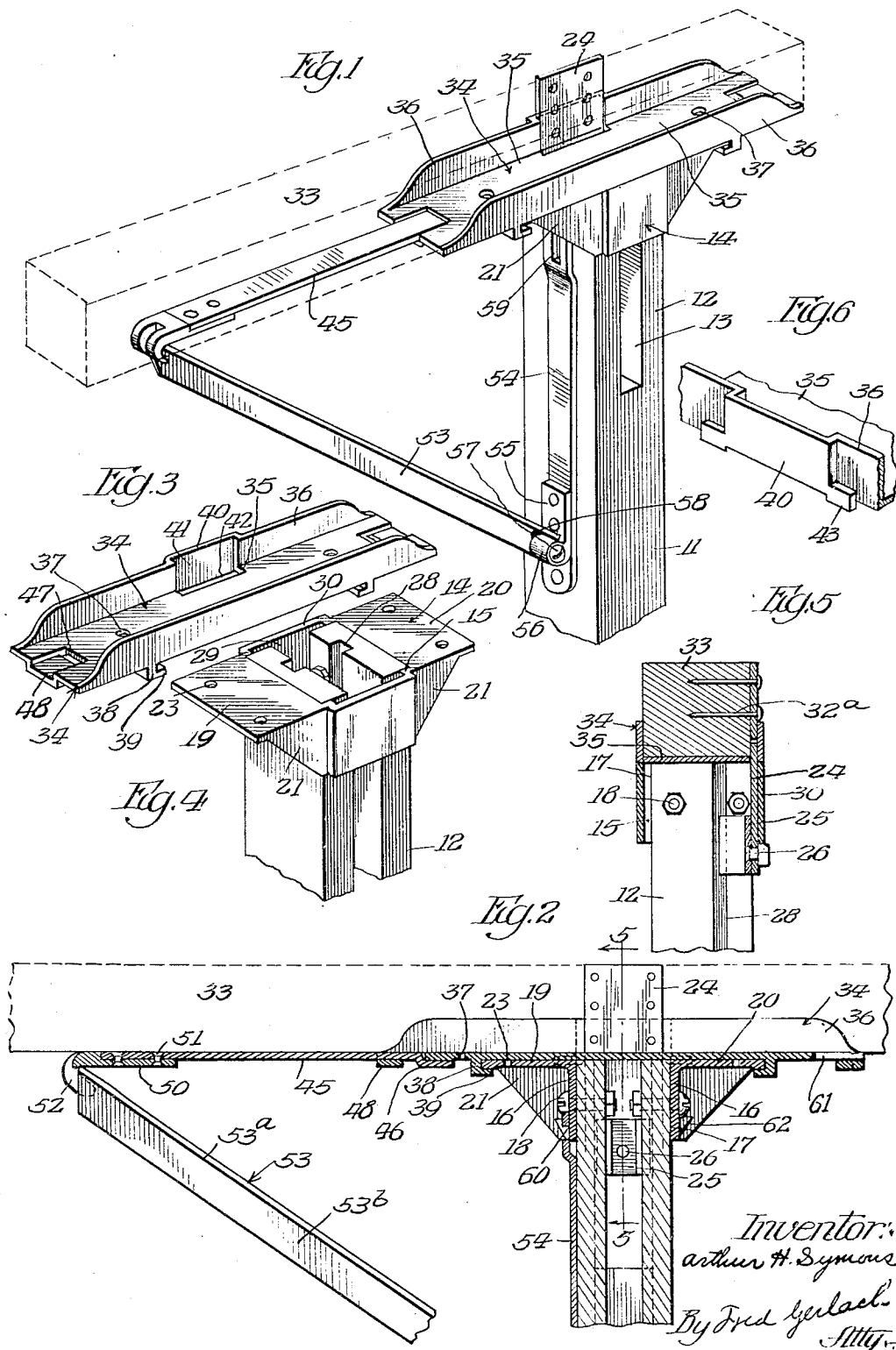
A. H. SYMONS

1,829,550

SHORE

Filed Feb. 16, 1929

2 Sheets-Sheet 1



Oct. 27, 1931.

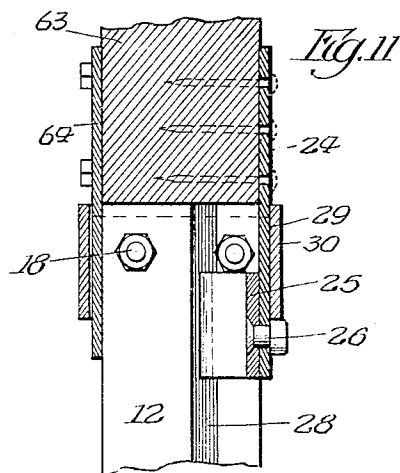
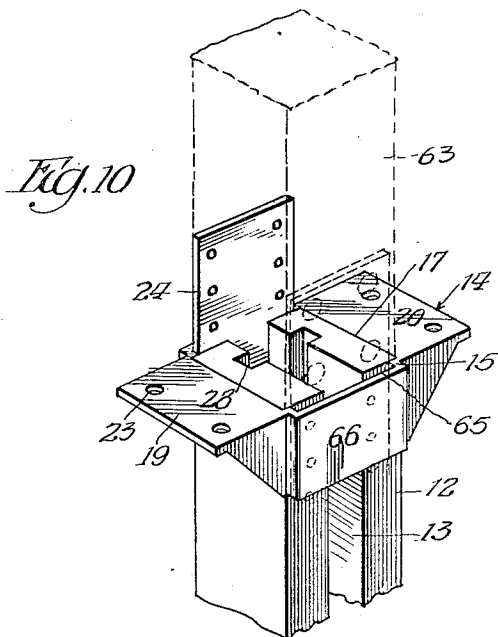
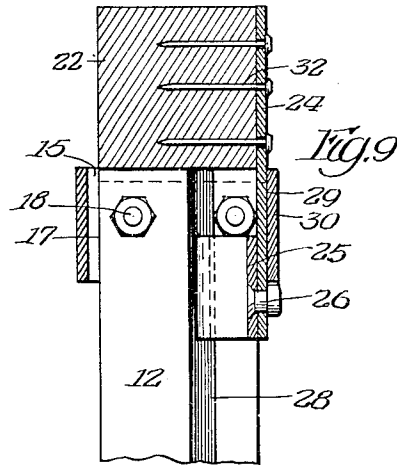
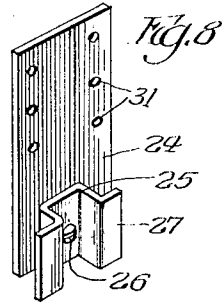
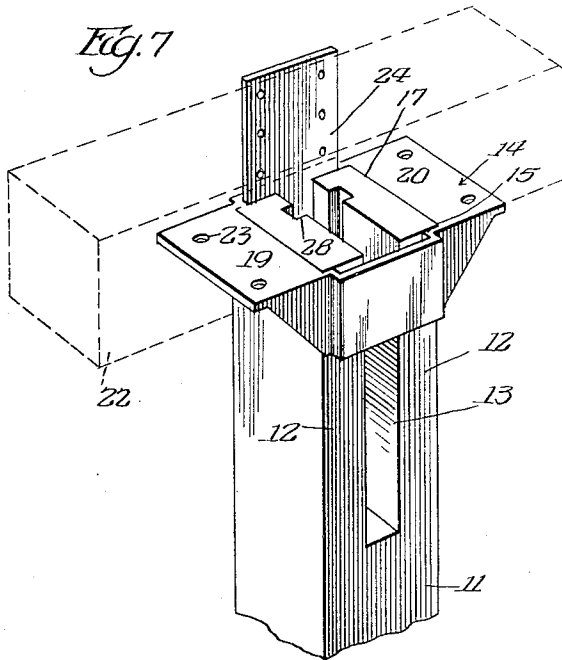
A. H. SYMONS

1,829,550

SHORE

Filed Feb. 16, 1929

2 Sheets-Sheet 2



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By Fred Gerlach
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UNITED STATES PATENT OFFICE

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SHORE

Application filed February 16, 1929. Serial No. 340,621.

The present invention pertains generally to shores for use in building construction. More particularly the invention relates to metallic brackets which are connected to the upper ends of shores.

One object of the invention is to provide a head bracket for a shore, which is adapted to be secured fixedly in place and embodies at one side thereof a vertically movable plate which is adapted to be shifted upwardly above the bracket proper and then nailed or scabbled either directly to a stringer or joist to hold the shore in its operative position or to a cross bar to form a bearing area of the desired length.

Another object of the invention is the provision of a socket or recess in the bracket which is adapted to receive a plate on the lower end of a vertical timber or bar to hold the latter in rigid relation when it is desired to increase the operative length of the shore.

A further object of the invention is the provision of an auxiliary member which is adapted to be affixed to the top face of the bracket and is shaped to form a cradle whereby either a centrally positioned crossbar may be held in place to form a T-head or an offset or overhanging crossbar may be supported to form an L-head.

A still further object of the invention is the provision of means which operates in conjunction with the vertically movable plate to lock the auxiliary member against displacement when it is mounted on the bracket.

Another object of the invention is to provide a brace structure which is in the nature of an attachment and is adapted to be interlocked with both the bracket and member to form a brace for supporting the overhanging or extended end of a crossbar.

Still another object of the invention is to provide a bracket which may be applied readily and quickly to the head of a shore and permits the shore to be used for practically all types of work and in which the construction thereof tends toward durability and compactness.

Additionally, the invention contemplates as one of its objects, providing a bracket for

the head end of a shore, which is of novel construction and is capable of being produced at a comparatively low cost and which is an improvement upon that disclosed in an application for Letters Patent of the United States filed by me August 27, 1927, Serial No. 215,811.

Other objects of the invention and the various advantages and characteristics of the present construction will be apparent from a consideration of the following detailed description.

The invention consists in the several novel features herein set forth and more particularly defined by the claims at the conclusion hereof.

In the drawings which accompany and form a part of this specification or disclosure and in which like numerals of reference denote corresponding parts throughout the several views:

Figure 1 is a perspective disclosing the bracket, auxiliary member and brace structure in cooperative relation and for use either with a T-head or L-head type of crossbar;

Figure 2 is a longitudinal sectional view showing in detail the construction of the brace structure and the manner in which the horizontal and vertical bars thereof interlock with the auxiliary member and bracket respectively;

Figure 3 is a perspective of the auxiliary member;

Figure 4 is a perspective of the bracket, disclosing in detail the manner in which it is secured to the head end of the shore;

Figure 5 is a vertical sectional view taken on the line 5—5 of Figure 2;

Figure 6 is a fragmentary perspective of the auxiliary member, illustrating the means which is adapted to cooperate with the vertically movable plate of the bracket to lock the member against displacement when it is mounted on the bracket;

Figure 7 is a perspective disclosing the manner in which the bracket and plate are adapted for use in securing the shore directly to a crossbar or stringer;

Figure 8 is a perspective view of the plate, illustrating in detail the shape and construction thereof and the U-shaped strip which is provided with ears that are slidable in grooves in the shore and operate to form a sliding connection for the lower end of the plate;

Figure 9 is a vertical sectional view of the arrangement disclosed in Figure 8;

Figure 10 is a perspective disclosing in detail the manner in which the plate and bracket may be used to support a vertical timber; and

Figure 11 is a vertical sectional view of the arrangement disclosed in Figure 10.

The invention is exemplified in connection with a shore 11 which is adapted for use in building construction and is made of an elongated beam or timber. The upper end of the shore is cut away from side to side to form a pair of timber-members 12 and an intermediate open-top chamber 13. The lower end of the shore 11 is provided with any suitable adjusting means (not shown) so that the shore may be positioned vertically to support the head thereof at any desired elevation. The head, which forms the subject matter of the present invention, embodies a bracket 14 which is formed of a one-piece casting and comprises a pair of oppositely facing and parallel side walls 15 and a pair of oppositely facing and parallel end walls 16. The walls of the bracket form a rectangular socket 17 which is open at the top and bottom thereof and fits around the upper ends of the timber-members 12. The bracket is arranged so that the upper edges of the walls 15 and 16 are flush with the top faces of the timber-members 12. It is fixedly held in place by bolts 18 which extend through the end walls 16 and the upper ends of said timber-members. There are preferably two bolts associated with each timber-member and these bolts are arranged so that the heads thereof fit against the end walls and the nuts are located in the chamber 13. In addition to the walls 15 and 16, the bracket comprises a pair of horizontal and longitudinally projecting arms 19 and 20. The latter are formed integrally with the end walls 16 and embody top bearing surfaces which are flush with the top of the socket 17. Triangular webs 21 serve to brace or reenforce the arms. These webs are formed integrally with and underlie the side margins of the arms and are in the nature of continuations of the side walls 15. The top bearing surfaces of the arms may be used to fit directly against the bottom part of a stringer or joist or they may be secured to a relatively short crossbar 22, as shown in Figure 7, so that said crossbar forms a supporting surface or plane head at the top of the shore. The arms 19 and 20 are provided with circular holes or apertures 23 through which nails may be

driven to secure the shore to the stringer or joist or to affix the crossbar 22 in place on the top of the bracket. When the bracket is used with the crossbar 22, the shore is adapted for use in connection with work that needs only a small supporting surface.

To form an abutment of side member, when the bracket is used against a joist or stringer or to support the crossbar 22, a rectangular plate 24 is provided. This plate fits against the timber-members 12 adjacent one of the side walls 15 and is slidable vertically so that the upper end thereof may be shifted into its operative position above the bracket 14. The lower end of the plate is confined to sliding movement only by a U-shaped strip 25 which is located in the chamber 13 and is secured to the inner face of the plate 24 by a stud 26. Said strip is provided with outwardly projecting ears 27 which are slidable in vertical grooves 28 in the inner and opposed faces of the timber-members 12. The upper end of the plate extends through a slideway 29 which is formed by an offset wall portion 30. The latter is a part of and constitutes the major portion of the side wall 15 which is associated with the plate 24. The slideway 29 and the U-shaped strip 25 together constitute means whereby the plate is slidably held in place so that it may be shifted vertically into its operative position. The upper end of the plate 24 is provided with circular holes or apertures 31 for the insertion of nails or screws 32 whereby the plate may be secured in place. The head of the stud 26 projects outwardly a sufficient distance to strike against the lower edge of the offset wall portion 29 and thereby limit the upward movement of the plate 24 so that the latter is prevented from being removed or disconnected from the bracket. The lower ends of the grooves 28 form abutments against which the ears 27 strike to limit the downward movement of the plate. The said lower ends of the grooves are so positioned that when the plate is in its inoperative or downward position the upper end thereof is beneath the bearing surfaces of the arms 19 and 20. A characteristic and an advantage of mounting the plate in the manner set forth is that the bracket may be used independently of or in conjunction with the plate. When the bracket is to be used in connection with a stringer or joist, the arms 19 and 20 are arranged in a supporting position and the plate 24 is shifted upwardly adjacent one side of the stringer and then nailed directly thereto to hold fixedly the shore in its operative position. If it is desired additionally to secure the shore in place, nails may be driven through the holes 23 into the bottom part of the stringer. When the bracket 14 is to be used with the crossbar 22 to form a plane head for the shore, the bar is

placed upon the arms and against the plate and is then nailed in place.

In some instances it is desirable to use a T-head or L-head type of crossbar 33 in connection with the shore (see Figures 1, 2 and 5). Since the top bearing surfaces of the arms 19 and 20 are small and would not serve to provide the proper supporting area for an extended bar of this character, an auxiliary member 34 is provided. This member operates to increase the supporting area of the bracket 14 and is shaped to form a cradle in which the crossbar 33 is positioned and held. Said member 34 is formed of a one-piece casting and comprises a longitudinally elongated bottom wall 35 which is adapted to underlie the bottom of the crossbar 33, and a pair of side walls 36. The latter, together with the bottom wall 35, form a chamber in which the crossbar fits snugly and is held. The member 34 is adapted to rest directly upon the top bearing surfaces of the arms 19 and 20 and the ends thereof project outwardly of said arms. The bottom wall 35 is provided with circular holes or apertures 37 through which nails may be driven to secure the crossbar 33 in place. The bracket 14 and the auxiliary member are held in connected relation by a pair of guides 38. These guides are formed integrally with the bottom surface of the bottom wall 35 and are provided with inwardly extending flanges 39 which extend around and grip the end margins of the arms 19 and 20. The guides are parallel to each other and are rendered operative when the member is slid transversely into engagement with the arms. One of the side walls 36 is provided with an offset wall portion 40 which forms a recess 41 adjacent one side of the auxiliary member 34. A longitudinal slot 42 is formed in the bottom wall 35 adjacent the base of said recess. The plate 24 is adapted to be shifted upwardly so that the upper end thereof extends through this slot and into the recess and forms an element or instrumentality whereby the member is held against transverse displacement. To prevent the member 34 from being slid too far forward during the connecting operation, and so that the slot 42 is out of registry with the slideway 29, a pair of lugs 43 are provided. These lugs are formed integrally with and depend from the wall portion 40, as shown in Figure 6, and engage the arms 19 and 20 to center properly the slot 42. When the plate is operative to lock the member 34 in place, the extreme upper end thereof is positioned above the side walls 36 with the result that nails 32^a may be driven into the crossbar 33 through the holes 31 to form a positive locking connection between the various elements. When the crossbar 33 is used to form a T-head for the shore, it is positioned centrally with respect to the member 34. When the crossbar is to be used as an L-head,

it is positioned so that one end thereof projects further outwardly than the other, that is, in offset or overhanging relation. The member 34 exemplifies means of an improved character for increasing the supporting area of the bracket 14 so that said bracket may be used readily in connection with either a T or L-head crossbar. The guides 38 exemplify slide means whereby the member and bracket may be connected together.

In building construction, the L-head type of shore is generally used where it is necessary to support a platform or staging alongside a concrete form. So that it will not be necessary to extend the auxiliary member 34 so that it is bulky and excessive in weight, a brace structure is provided. This structure is in the nature of an attachment and is adapted to be interlocked both with the bracket and the member 34. It consists of a horizontal bar 45 the inner end of which is bent to form an offset hook 46. The latter is adapted to pass through a transverse slot 47 in one end of the bottom wall 35 so that it assumes a position wherein the hook proper underlies the portion of said wall immediately inwardly of the slot and the part of the bar adjacent the hook overlies a depressed portion or strip 48. Said strip is formed integrally with the bottom wall 35 adjacent and immediately outwardly of the slot 47 and operates in conjunction with a pair of parallel lugs 49 to hold the inner end of the bar against transverse movement. In addition to preventing transverse movement of the bar, the strip 48 cooperates with the outer or curved part of the hook to prevent longitudinal movement. The upper face of the bar 45 is substantially flush with the top face of the bottom wall 35 so that it forms a continuation of the supporting surface which is provided for the crossbar 33. A lug 50 is connected by rivets 51 to the outer end of the bar 45 and is provided with a pair of integral downwardly projecting fingers 52. The latter are adapted to receive a diagonal brace or compression member 53 which is T-shaped in cross section and comprises a flange 53^a and a web 53^b. The inner or lower end of the brace-member 53 is supported from the bracket 14 by a suspension or tension bar 54. The lower end of this last mentioned bar is riveted to a lug 55 which is provided with a pair of upwardly extending fingers 56. The flange of the T-shaped member 53 abuts against the lug 55 and the web portion fits between the fingers 56. A bolt 57 extends through a slot 58 in the lower end of the web and operates to hold the bars 53 and 54 in connected relation, more particularly when they are not in use. The slot 58 is elongated to permit the brace-member 53 to be folded against the bar 54 when it is not in use. The upper end of the bar 54 is provided with a slot 59 to receive a hook 60

which is connected to the end wall 16 that underlies the end of the auxiliary member 34 that bears the slot 47. The hook and slot connection between the upper end of the bar 54 and the bracket constitutes means which permits the brace structure to be removed from the bracket when it is not used. A slot 61 is formed in the members 34 on the end opposite the slot 47 and a hook 62 is connected to the bracket so that the brace structure may be used at either end of the shore.

In some instances the adjusting device at the lower end of the shore is not capable of positioning the head at the proper elevation and it is necessary to use an extension timber 63 to increase the operative length of the shore. This timber is held in place, as shown in Figures 9 and 10, by the plate 24 and a second plate 64 which is attached to the lower end of the extension timber and is held in a slideway 65. The latter is formed by an offset wall portion 66 which is similar to and opposite the offset wall portion 40. A slot 67 is formed in the bottom wall 35 adjacent the slideway 65 so that the distal end of the plate 64 on the extension timber may extend against the timber-members 12.

The head construction herein disclosed and consisting of the bracket 14, the auxiliary member 34 and the brace structure may be manufactured at a comparatively low cost and adapts the shore for practically universal application. It is extremely simple and permits of ready and quick assemblage.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a shore, the combination of a shore-member adapted to support an auxiliary member at the upper end thereof, a flat plate at the said upper end of the shore-member embodying means whereby it may be attached to one side of the auxiliary member, and means associated with the shore-member for supporting said plate so that it may be shifted from an operative position above the shore-member into an inoperative position wherein it is disposed completely beneath the extreme upper end of the shore-member.

2. In a shore, the combination of a vertical shore-member consisting of a pair of laterally spaced members, the upper ends of said members having vertical grooves formed in the opposed faces thereof, and a plate positioned adjacent said members and provided with means extending into the grooves to form a connection whereby said plate may be shifted vertically into a position above the top extremity of the shore.

3. A head-bracket for a shore, comprising a member provided with means whereby it may be attached to the upper end of the shore, means at the top of said member forming a substantially flat bearing surface to support a bar, a plate for holding the bar in connected relation with the member, and means associated with the member for supporting the plate so that it is slidable from an operative position against one side of the member into an inoperative position wherein it is disposed completely beneath the bearing surface.

4. A head-bracket for a shore, comprising a member provided with a socket to receive the upper end of the shore, means at the top of said member forming a substantially flat bearing surface to support a bar, a plate provided with means whereby it may be attached to said bar, and means associated with the socket-member for supporting the plate so that it may be shifted upwardly into engagement with one side of the bar.

5. A head-bracket for a shore, comprising a member provided with a socket to receive the upper end of the shore, a pair of arms projecting outwardly from the member and forming a substantially flat bearing surface to support a crossbar, a plate positioned between the arms, and means associated with the socket-member forming a sliding connection whereby the plate may be shifted upwardly into engagement with one side of said crossbar.

6. A head-bracket for a shore, comprising a plurality of walls connected together to form a socket for receiving the upper end of the shore, one of said walls being shaped to form a vertical slideway, and a plate mounted in said slideway and adapted to be shifted vertically above the socket.

7. A head-bracket for a shore, comprising a pair of side walls and a pair of end walls formed integrally with each other and arranged to form a substantially square socket for receiving the upper end of the shore, one of said walls being shaped to form a vertical slideway, and a plate mounted in said slideway and adapted to be shifted vertically above the socket.

8. A head-bracket for a shore, comprising a pair of side walls and a pair of end walls connected together to form a substantially square socket for receiving the upper end of the shore, one of said side walls having a portion thereof spaced from the contiguous side of the shore so as to form therewith a vertical slideway, and a plate mounted in the slideway and adapted to be shifted above the socket.

9. A head-bracket for a shore having a pair of laterally spaced members at the upper end thereof, said bracket comprising a plurality of walls connected together to form a

socket for receiving the shore-members, one of said walls being shaped to form a vertical slideway, and a plate mounted in said slideway and adapted to be shifted upwardly
 5 above the socket, said plate being provided at the lower end thereof with an element adapted to slide between the aforesaid shore-members.

10. A head-bracket for a shore having a
 10 pair of laterally spaced members at the upper end thereof, said bracket comprising a plurality of walls connected together to form a socket for receiving the shore-members, one of said walls being shaped to form
 15 a vertical slideway, and a plate mounted in said slideway and adapted to be shifted upwardly above the socket, said plate being provided at the lower end thereof with a U-shaped strip having lateral ears adapted to
 20 slide in grooves in the opposed faces of the aforesaid shore-members.

11. In a shore, the combination of a vertical shore-timber, a bracket-member fixedly secured to the upper end of said timber, an
 25 auxiliary member embodying a bearing surface of comparatively large area for supporting a crossbar, means forming a sliding connection whereby the auxiliary member may be attached to the bracket, and means for
 30 locking the auxiliary member in its attached position, comprising a plate slidably mounted on one of the members and shiftable into locking engagement with the other member.

12. In a shore, the combination of a vertical shore-timber, a bracket fixedly secured
 35 to the upper end of the timber, an auxiliary member adapted to support a crossbar and provided with a slot in the bottom thereof, means forming a sliding connection whereby
 40 the auxiliary member may be attached to the bracket, and a plate slidably connected to the bracket so that it may be shifted vertically through the slot to lock said auxiliary member in its attached position.

45 13. In a shore, the combination of a vertical shore-timber, a bracket fixedly secured to the upper end of said timber, a member formed separately from the bracket and embodying a bearing surface of comparatively
 50 large area for supporting a crossbar, means for attaching the member to the bracket, and a brace structure comprising a bar forming an extension of the bearing surface, said structure being supported by and interlocked
 55 with both the member and bracket.

14. In a shore, the combination of a vertical shore-timber, a bracket fixedly secured to the upper end of said timber, a member formed separately from the bracket and embodying a bearing surface of comparatively
 60 large area for supporting a crossbar, means for attaching the member to the bracket, and a brace structure comprising an extension bar interlocked at its inner end with one
 65 end of the member, a brace bar and a suspen-

sion bar connected to the bracket and attached at its lower end to the lower end of the brace bar.

Signed at Chicago, Illinois, this 23d day of January, 1929.

ARTHUR H. SYMONS.

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