United States Patent [19]

Greene

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[54] **SWIMMING POOL COPING**

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[52] **U.S. Cl.** **52/102,** 4/172.21, 52/300, 52/585

[51] **Int. Cl.** **E04h 3/18**

[58] **Field of Search** 52/102, 169, 127, 52/726, 300, 478, 492, 561, 585; 4/172.21

[56] **References Cited**

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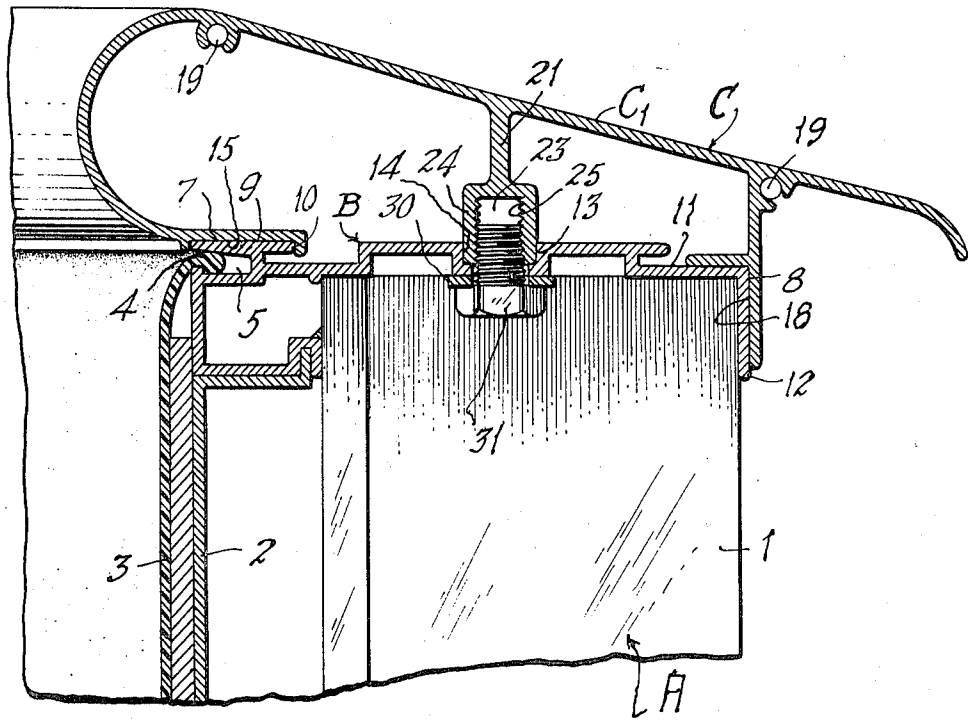
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[57] **ABSTRACT**

Coping structure for a swimming pool includes a plurality of sections relatively slidably adjustable on a support member with provisions at the ends of the sections for alining and holding the sections in alinement. Each section has a downwardly extending longitudinal flange intermediate its width with a channel in its edge the interior surfaces of whose side walls have ridges and grooves to coact with the screw threads of cap screws that pass through holes in the support member at the bottom of a groove of approximately the same width as said flange whereby upon driving of the screws into the channel the walls of the flange are drawn tightly into the groove.

5 Claims, 7 Drawing Figures



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SHEET 1 OF 2

Fig. 1

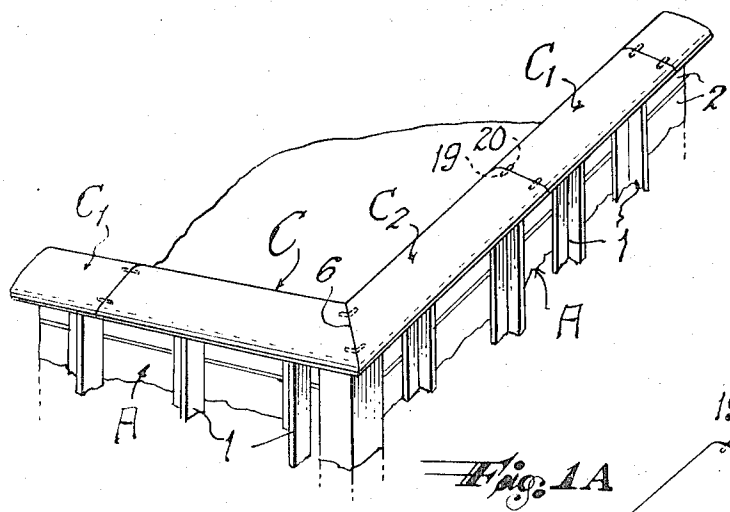


Fig. 2

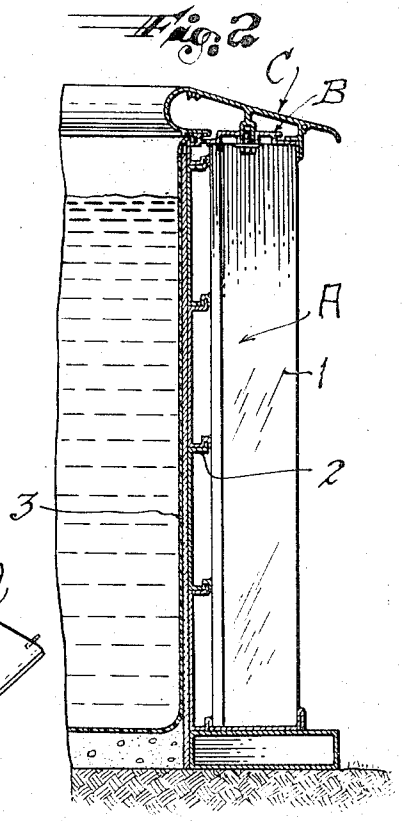


Fig. 1A

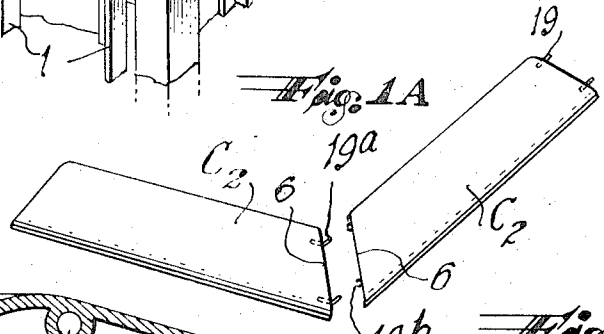
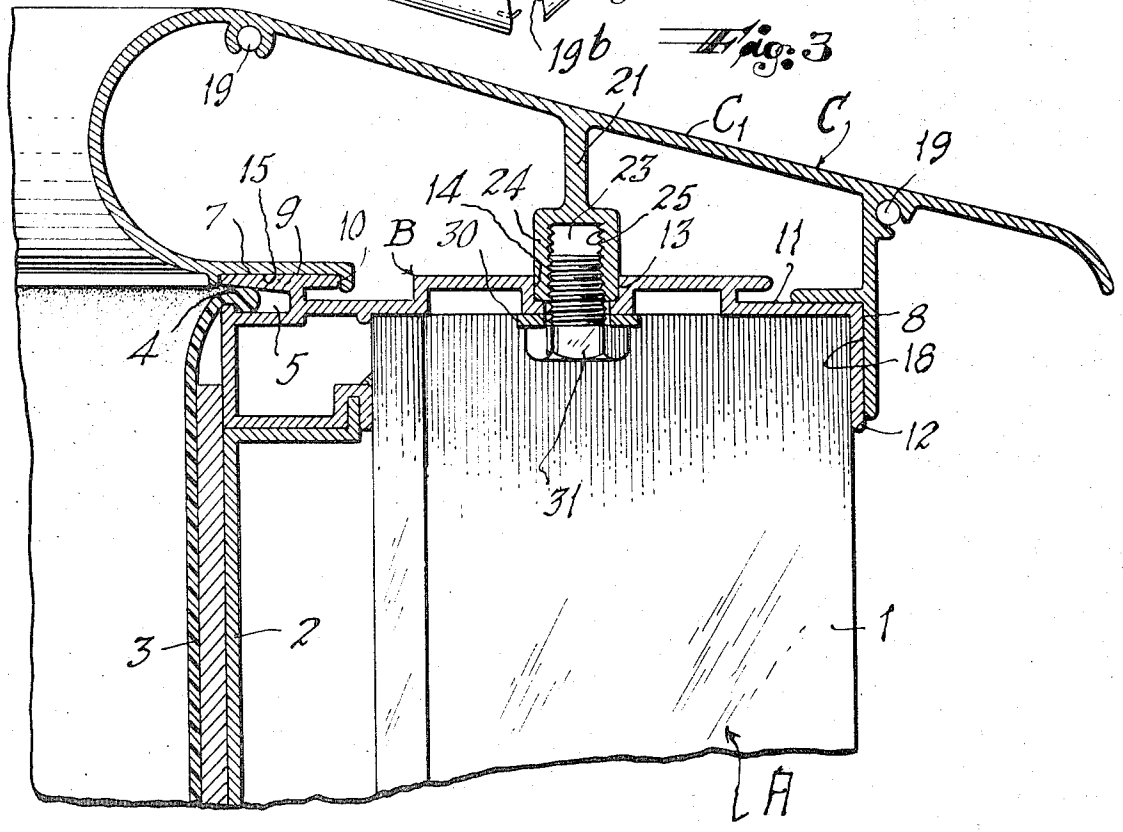


Fig. 3



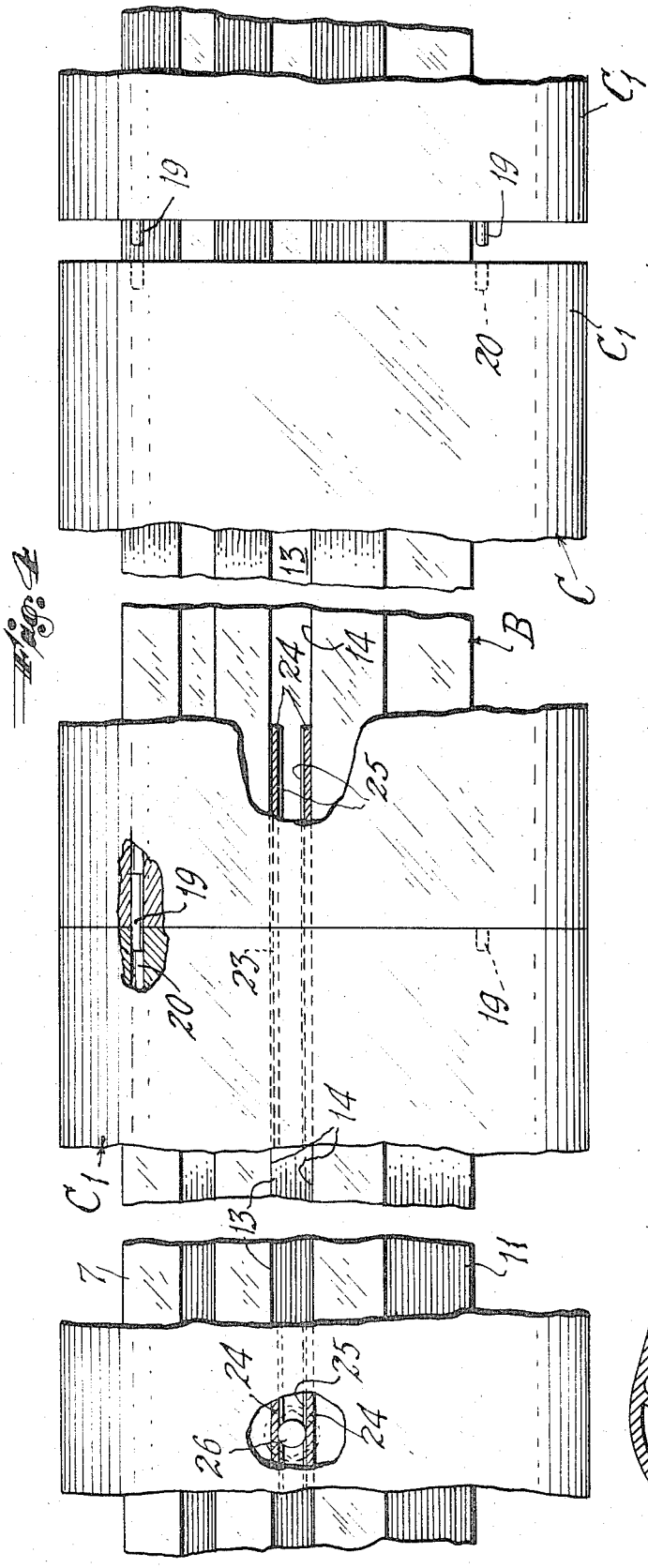


Fig. 4

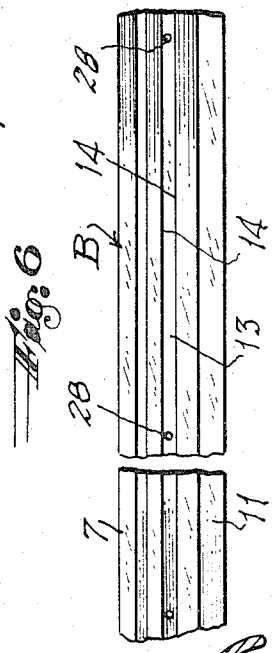


Fig. 6

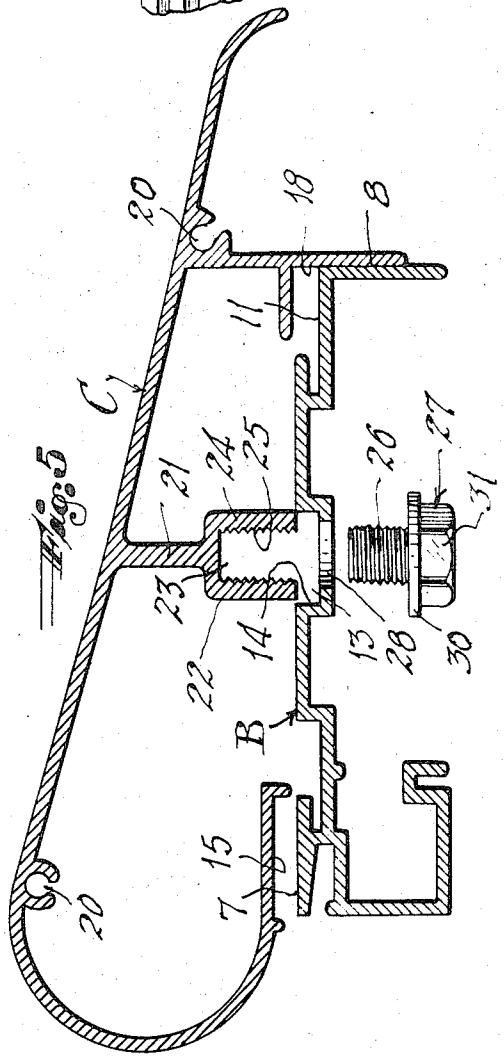


Fig. 5

SWIMMING POOL COPING

BACKGROUND OF THE INVENTION

The invention relates particularly to a coping structure used to cap the upper edges of the walls of a swimming pool.

The prior art provides coping structures which include a plurality of facing sections generally formed of extruded metal and secured together and to a coping support member in the form of a cap for the upper edges of the sides of a pool wall which generally is polygonal in plan for example, rectangular. The coping sections generally are in endwise abutting relation to each other and are secured together and to the support member by bolts or screws or welding.

These known constructions leave much to be desired because of difficulties in alining the abutting sections and holding them in alinement while connecting them to each other, and in fastening the alined sections to the support member; and especially where bolts or screws are used to secure the sections to the support member, excessive time and expense are required in providing for sliding adjustment of the sections on the support member and at the same time obtaining a firm connection of the facing sections to the support member.

SUMMARY OF THE INVENTION

It is a primary object of the invention to provide a coping structure which overcomes the objections to and disadvantages of the prior art structures, and wherein provision is made at one end of each facing section to coact with one end of the next adjacent section to aline the sections upon sliding thereof relatively to each other on the support member and to hold the adjusted sections against relative lateral displacement, and there is means for easily and quickly and firmly connecting the sections in their adjusted positions to said support member.

Another object is to provide such a coping structure wherein each coping section has at least one pin at one end to telescopically enter a recess in the next adjacent section as the sections are slid toward each other.

A further object is to provide each coping section with a downwardly extending longitudinal flange intermediate its width having in its edge a downwardly facing channel in whose resilient side walls are longitudinal ridges and grooves to coact with the screw-threads of one or more cap screws extending through holes in predetermined locations in the bottom wall of a longitudinal groove in the support member of a width approximately the same as the channeled edge of said flange, so that upon driving of the screws into said channel said flange is drawn tightly into the channel to restrain spreading of said channel side walls and ensure a tight, firm connection of the coping section to the support member.

A BRIEF DESCRIPTION OF THE DRAWINGS

For a complete understanding of the invention, reference should be had to the following description in conjunction with the accompanying drawings in which:

FIG. 1 is a fragmentary top perspective view of one upper corner portion of a rectangular enclosure wall for a swimming pool, showing several sections of the coping embodying the invention;

FIG. 1A is a fragmentary perspective view of two of the corner sections of the coping in separated relation to each other;

FIG. 2 is a fragmentary transverse vertical sectional view through one wall of the enclosure;

FIG. 3 is a greatly enlarged transverse vertical sectional view of the upper edge portion of the enclosure wall, the coping support member and a coping section in assembled relation;

FIG. 4 is a fragmentary top plan view of several coping sections with portions broken away and shown in section for clearness in illustration;

FIG. 5 is a transverse vertical sectional view through the coping support member, a coping section and a clamping screw in partially assembled relation to each other; and

FIG. 6 is a fragmentary plan view on a reduced scale of the coping support member.

DESCRIPTION OF THE PREFERRED EMBODIMENT

While the swimming pool coping embodying the invention may be utilized with different types of swimming pool enclosure walls, for the purpose of illustrating the invention, a known type of rectangular swimming pool has been shown as including side walls A which are shown as comprising vertical angle bars **1** to which are secured in known manner horizontal wall panels **2** which serve to support the usual plastic pool liner **3** which in the present instance is shown as having a bead **4** at its upper edge secured in a recess **5** disposed at the inner edge of a coping support member B which is secured to the upper edge portion of the enclosure wall as shown in FIGS. **2** and **3**.

The coping C is shown as comprising a plurality of sections that are secured to the support member B in end to end relation to each other as best shown in FIG. **1**, there being straight sections C_1 and corner sections C_2 whose ends are mitered as indicated at **6**.

In accordance with the invention the coping sections are slidably adjustable along the upper surface of the coping support member B, and as shown the support member B has two coping seats **7** and **8** each of which has two right angularly related portions one of which is in a horizontal plane. As here shown, the seat **7** has a horizontal portion **9** and a pair of vertical portions **10**, while the seat **8** has a horizontal portion **11** and a vertical portion **12**.

Located in the support member between these seats is a longitudinal upwardly facing groove **13** with vertical side walls **14**. Each coping section has a shoe portion to coactively engage one of said seats to permit sliding of said coping sections along said seats and at the same time to hold the coping sections against lateral movement on the seats. As shown, each coping section has a shoe **15** engageable with the seat **7**, and a shoe **18** engageable with the seat **8**, the shoes having vertical and horizontal portions to engage the vertical and horizontal portions of the respective seats.

The coping sections are preferably formed of extruded material such as aluminum and have some inherent resiliency or springiness, and one feature of the invention is means for aligning the sections in end to end relation to each other and coupling together adjacent sections. The coupling means here shown comprise at least one and preferably two pins **19** in and projecting from one end of one section to frictionally tele-

scopically engage correspondingly shaped sockets **20** in and opening through the end of the next adjacent section. In assembling the coping sections, they are set on the top surface of the support member with the ends of the adjacent sections separated as best shown at the right hand side of FIG. **4**, whereupon the two sections are relatively sprung and pushed toward each other to cause the pins **19** to slide into the sockets **20.** At the corners of the enclosure wall, one corner section carries angular pins **19***a* which are inserted into sockets **19***b* in the adjacent section as best shown in FIG. **1A.**

An important feature of the invention is the means for firmly securing the coping sections to the support member. As here shown, each coping section has intermediate its width and between shoes **15** and **18** a longitudinal downwardly extending flange **21** whose lower edge is of a width approximately equal to the width of the groove **13** in the support member and is in substantial vertical alignment with said groove when the shoes are set on said seats. In the lower edge portion of the flange **21** is a longitudinal groove **23** whose side walls **24** have some inherent resiliency and are provided on their inner surfaces with ridges and grooves **25** to coact with the screw threads **26** of a cap screw **27** when the shank of the screw is inserted through a hole or slot **28** in the support member B at the bottom of the groove **13** as best shown in FIGS. **3** and **5.** With this construction, when the screw is inserted through the hole **28** and is rotated so as to drive the screw into the channel **23,** the walls **24** of the channel are drawn tightly into the groove **13** and the side walls **14** of the groove restrain spreading apart of the walls **24** of the channel. Desirably a washer **30** is interposed between the bottom surface of the support member and the head **31** of the cap screw.

From the foregoing it will be readily seen that the coping sections can be easily and quickly aligned with each other and that their ends can be held against springing apart or warping by the pin and socket connections **19, 20**; and also the channels **23** in the flanges **21** permit easy and quick slidable adjustment of the coping sections of the support member without regard to the location of the fastening screws **27** each of which may be located in a separate hole **28** in the support member. At the same time, a firm clamping of the coping sections on the support member by the cap screws is ensured, the screws being tightly screwed into the channels **23** and the walls of the channels being tightly wedged between the side walls of the longitudinal groove **13** in the support member. It is also important that the invention eliminates the necessity for welding operations.

I claim:

1. Coping structure for a swimming pool, comprising an elongated coping support member to be secured to the upper edge portion of a wall section of the swimming pool, and a plurality of coping sections relatively slidably adjustable on said support member having means at their ends for alining and coupling the ends of said sections in alinement, said support member having an upwardly facing longitudinal groove with vertical side walls and each coping section having a downwardly extending longitudinal flange intermediate its width of approximately the same width as said groove and provided with a longitudinal channel in its edge the interior surfaces of whose side walls have longitudinal ridges and grooves to coact with the threads of a screw, and at least one cap screw for each coping section passing through a hole in said support member at the bottom of said groove with its threads meshing with said ridges and grooves thereby providing that upon driving of the screw into said channel the walls of said channel are drawn tightly into the groove the side walls of which restrain the spreading apart of said side walls of the channel in said flange and positively fasten the coping to said support members.

2. Coping structure as defined in claim **1,** wherein said support member has two longitudinal coping seats each with two right angularly related portions one of which in a horizontal plane, each coping section has a shoe portion to coactively engage one of said seats permitting sliding of said coping sections along said seats and at the same time holding the coping sections against movement laterally of said seats and said longitudinal groove is between and parallel to said seats.

3. Coping structure as defined in claim **2** wherein said means for alining and coupling the coping sections comprise at least one pin in and projection from one end of one section and a socket on and opening through the end of the next adjacent section to telescopically frictionally recive said pin.

4. Coping structure for a swimming pool, comprising an elongated coping support member to be secured to the upper edge portion of a wall section of the swimming pool, and a plurality of coping sections relatively slidably adjustable on said support member with the ends of adjacent sections in abutting relation, said support member having an upwardly facing longitudinal groove with vertical side walls and each coping section having a downwardly extending longitudinal flange intermediate its width of approximately the same width as said groove and provided with a longitudinal channel in its edge the interior surfaces of whose side walls have longitudinal ridges and grooves to coact with the threads of a screw, and at least one cap screw for each coping section passing through a hole in said support member at the bottom of said groove with its threads meshing with said ridges and grooves thereby providing that upon driving of the screw into said channel the walls of said channel are drawn tightly into the groove the side walls of which restrain the spreading apart of said side walls of the channel in said flange and positively fasten the coping to said support members.

5. Coping structure as defined in claim **4** wherein said support member has two longitudinal coping seats each with two right angularly related portions one of which in a horizontal plane, each coping section has a shoe portion to coactively engage one of said seats permitting sliding of said coping sections along said seats and at the same time holding the coping sections against movement laterally of said seats and said longitudinal groove is between and parallel to said seats.

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