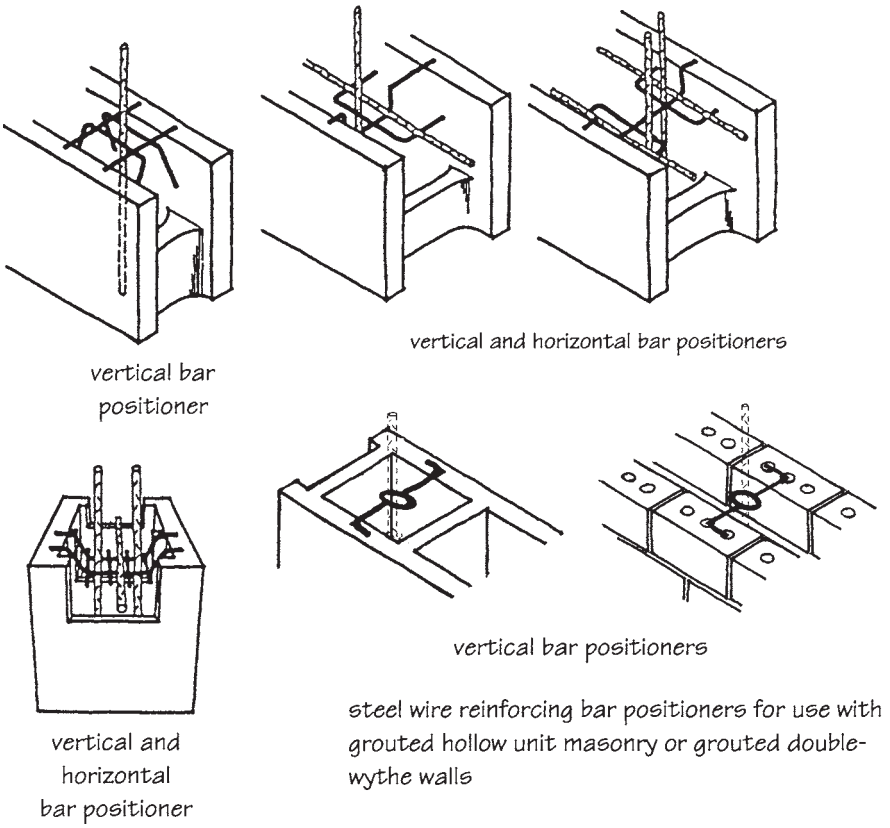

Figure 15-43 Bar positioners for vertical reinforcing steel.

of plumb. A displacement of as little as $^1/_8$ in. can destroy the bed joint bond, and the work must be torn down and rebuilt. The joint rupture will cause a permanent plane of weakness and cannot be repaired by simply realigning the wall.

Bed joints can also be broken by rotation of the brick from uneven suction. To avoid this, the grout level should be kept at or below the center of the top course during construction. If operations are to be suspended for more than 1 hour, however, it is best to build both wythes to the same level, and pour the grout to within $^3/_4$ in. of the top of the units to form a key with the next pour. Grout that is in contact with the masonry hardens more rapidly than that in the center of the grout space. It is therefore important that consolidation take place immediately after the pour and before this hardening begins.

Grout must be consolidated by vibration as it is being placed to minimize voids that are left when water from the grout mix is absorbed by the masonry (*see Fig. 15-53*). Grout consolidation can be accomplished by puddling with a piece of reinforcing bar if the lifts do not exceed 12 in., but for higher lifts, a mechanical vibrator with a $^3/_4$- to 1-in.-diameter head must be used. Five to ten minutes after the grout is placed, the vibrator should be inserted into the grout cavity or cores for a few seconds in each location. Within 30 minutes of consolidation, the grout must be reconsolidated to assure proper bond to the units and reinforcement. Reconsolidation prevents separations from developing between the grout and the masonry after shrinkage, settlement, and absorption have occurred.

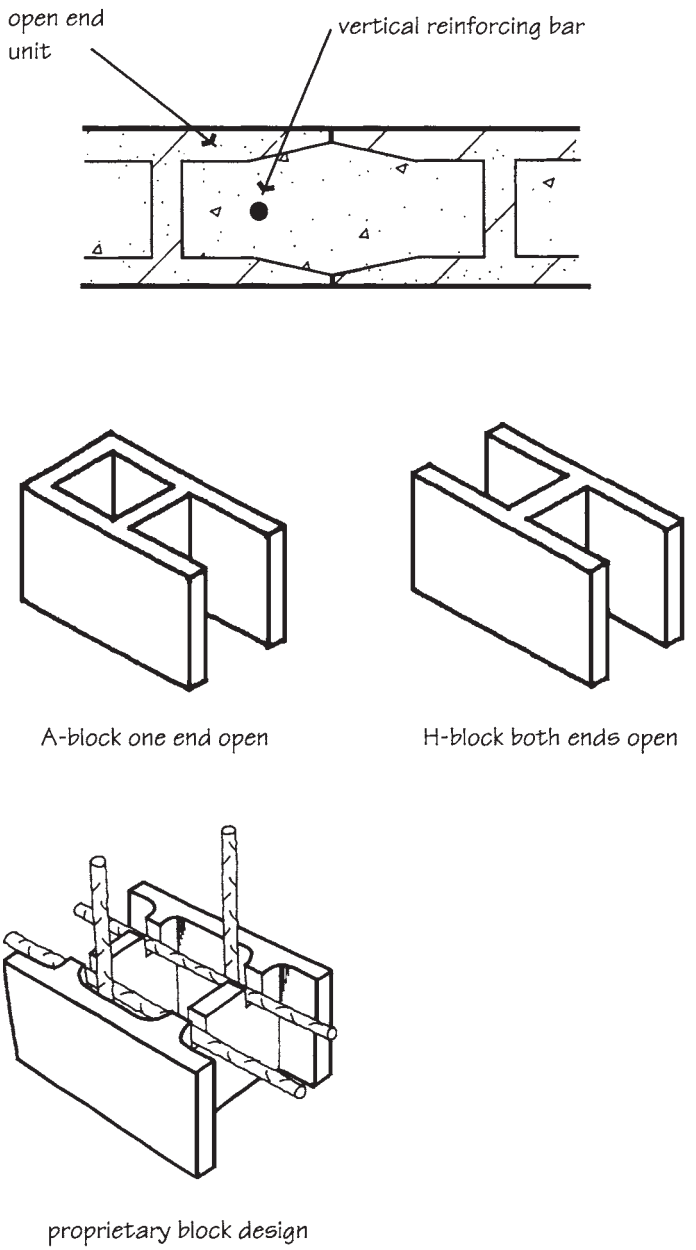

Figure 15-44 Special open-end block designs make it easier to place units around vertical reinforcing steel instead of threading over the top of the bar.

In single-wythe hollow-unit construction, walls are built to a maximum 5-ft height before grout is pumped or poured into the cores. Grout is placed in the cores, and then consolidated to ensure complete filling and solid embedment of steel.

High-lift grouting operations are not performed until the wall is laid up to full story height (*see Fig. 15-54*). In multi-wythe walls, one wythe is built up not more than 16 in. above the other, and vertical grout barriers are used to contain the grout within a 30-ft length of wall.