



THE TUMBLER BLOCK is a hard piece of wood about $\frac{3}{4}$ " thick and $2\frac{3}{4}$ " \times $1\frac{1}{2}$ " on its lower face, the upper slightly smaller by reason of the two shorter sides being chamfered upwards. In this block four funnel-shaped holes are drilled, narrow end downwards, and into these are placed four loose tapering pegs of hard wood 1" long and of such diameter that when allowed to drop, their narrow ends project through the holes for a length of $\frac{1}{2}$ ", the broad ends preventing them from dropping completely through.

THE BOLT is a relatively long rectangular prism of wood with three of its lower edges slightly raised, that is to say, a broad flat shallow channel is sunk along its under-surface, reserving a narrow margin at the long sides, which slide upon the shoulders cut in the case; and reserving also a small portion of the (outer) end. Four holes are drilled vertically through the bolt, coinciding exactly, when the bolt is thrown, with the holes in the tumbler block above. In this position the loose tumblers project downwards into the holes and prevent the bolt being moved either way—in fact locking it. It will be seen from the accompanying sketches that the tumbler block is free and rests upon the upper face of the bolt, thereby ensuring constant contact in spite of wear or shrinkage.

To prevent the complete withdrawal of the bolt when unlocked, and the consequent escape of the tumbler block which would then be free to drop out, a deep groove is

sunk in the outer vertical side of the bolt about $1\frac{7}{8}$ " in length, and about centrally between the ends. A wooden peg of suitable diameter driven through from the outer end of the lock case into the bolt chamber until it projects inside sufficiently to engage with the groove, checks the traverse of the bolt in both directions. It is thus obvious that in putting the lock together the procedure would be, first, to insert the tumbler block with its loose pegs up into the hollow provided; then, to turn the case upside down so that the tumblers would retire; next, the bolt would be slid into its hole, and, finally, the peg (traverse check) would be driven through to make all secure. The lock would then be ready for fixing to door or lintel.

The key for this lock, undiscovered, but, no doubt, exactly corresponding to the specimens from the same site, Kha. ii. 0038; ix. 008 (see Pl. XVII), was a flat rectangular prism of wood having four projecting pins on its upper side, of size, projection, and disposition corresponding with the holes in the bolt. In use, the key would be thrust into the keyhole (the lower and narrower part of the transverse hole), and then lifted to bring the pins into the four holes in the bolt. Pressing them home, the tumblers would be lifted clear of the bolt which could then be withdrawn.

The principle of this lock is probably very ancient and was very widespread. Aristophanes, in *Thesmophoriazusa*, makes the women complain that their husbands carried the