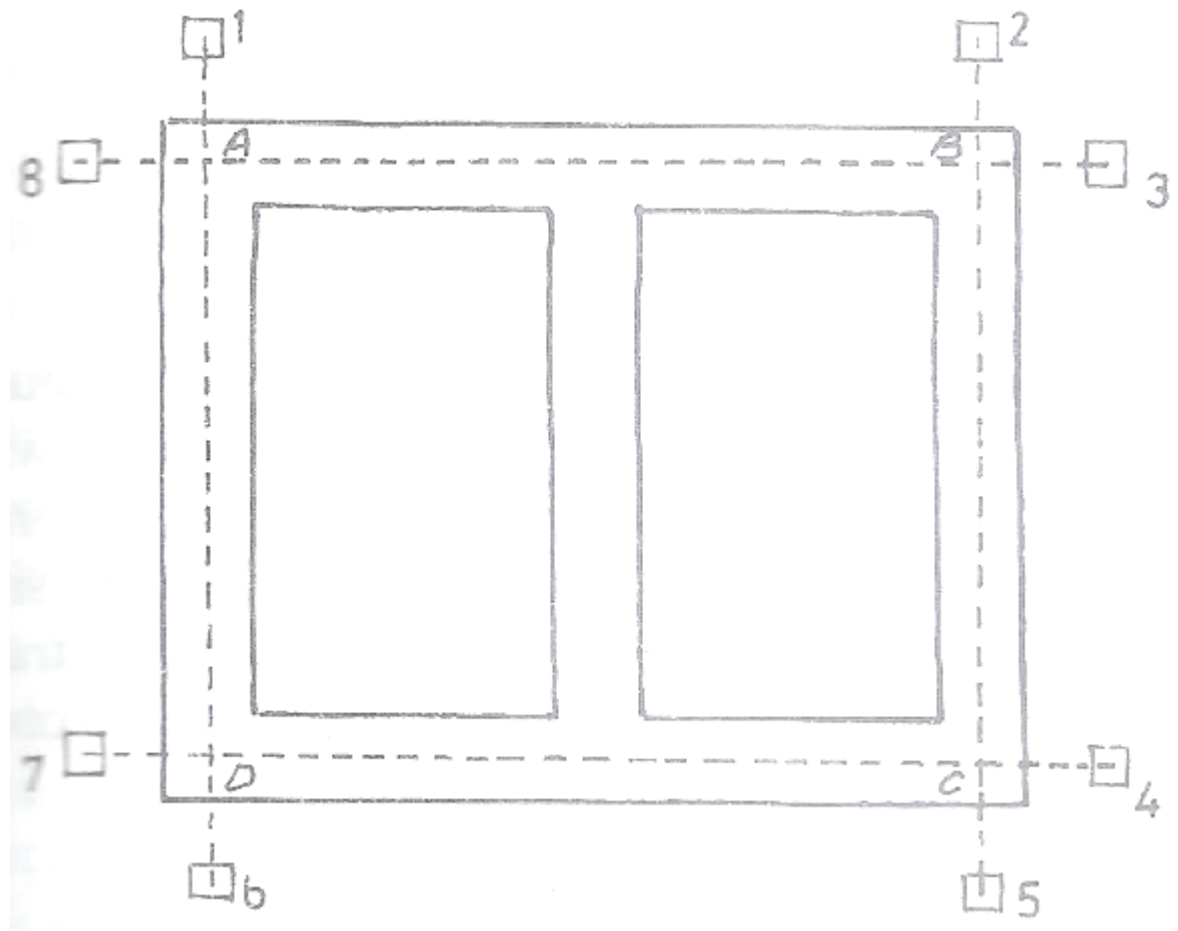


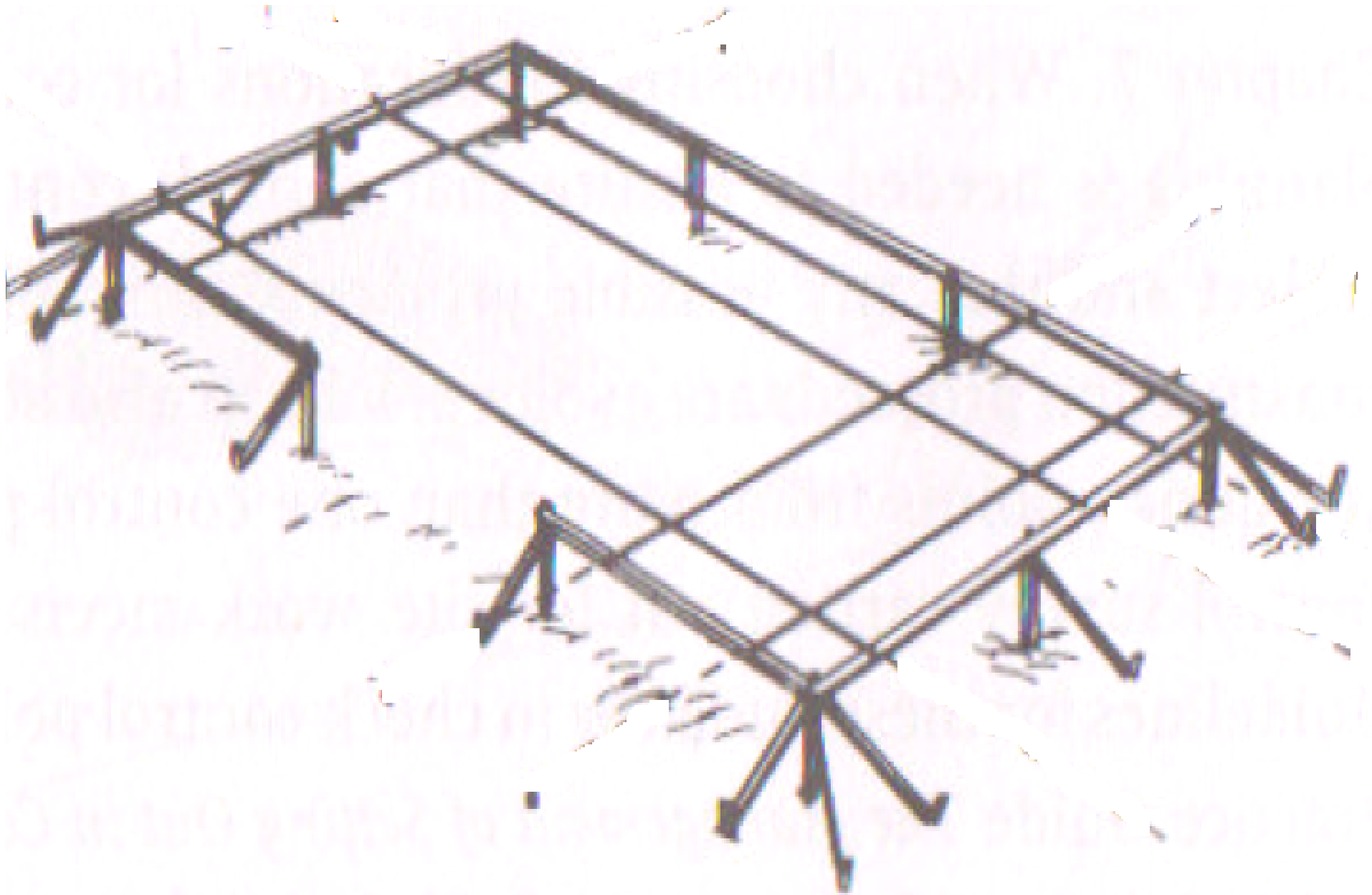
Setting-out Works

Setting-out of a building – marking of a building position, size and shape in terrain.

Vedprakash marlapalle

Setting out of Load bearing Structure



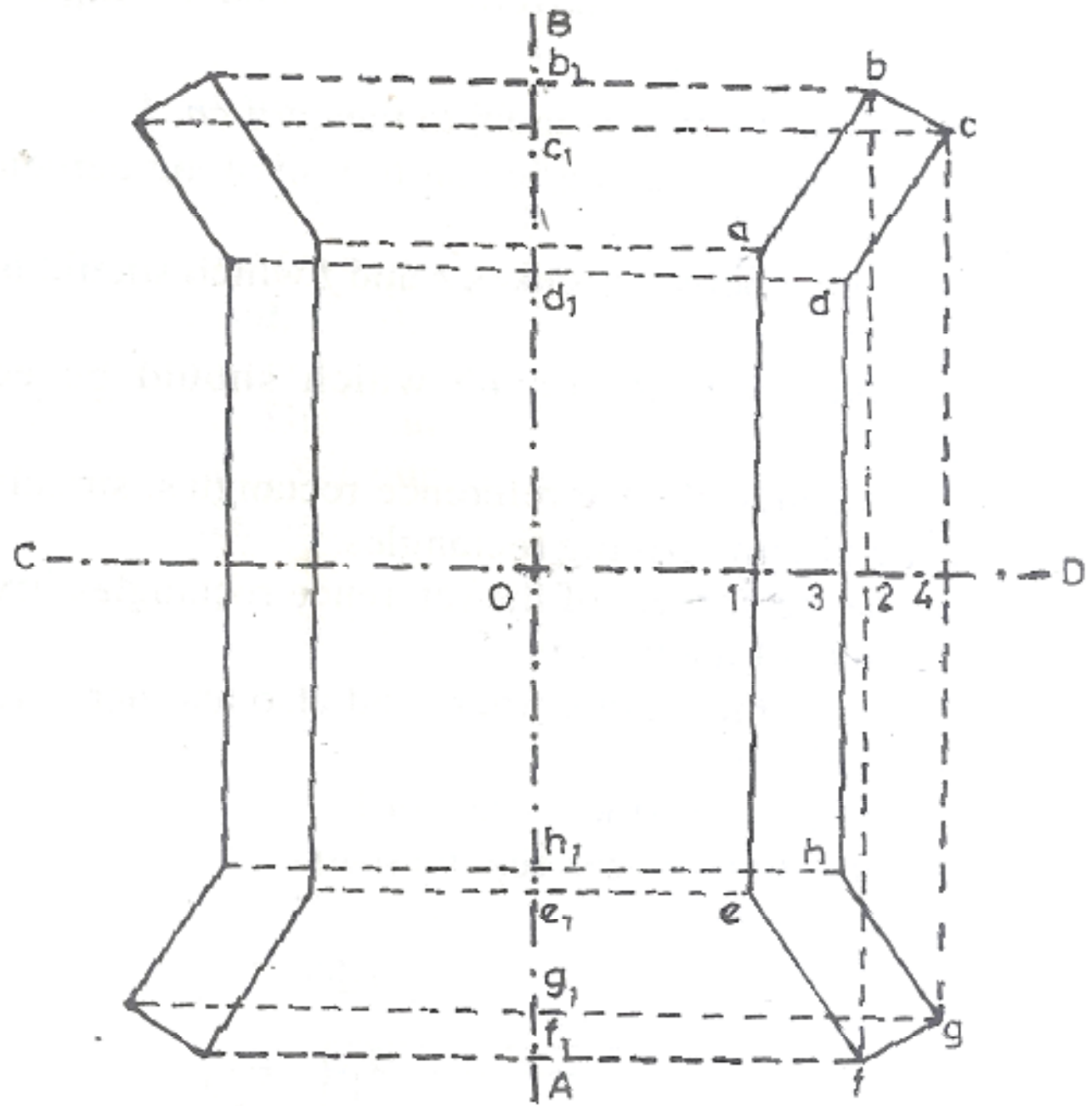




- In this method , the rectangle ABCD formed by the center lines of the outsides of the walls of buildings is set out accurately with tape.
- The corner of the building are then located by measuring there distances with reference to these rectangle. As the excavation proceeds ABCD will get disturbed & hence they will no longer available for reference. To over come this difficulty reference stakes 1 to 8 on the prolongation of the sides..
- In uneven ground the required reference points, may be transferred on the ground by using plumb bob.

Setting out of culvert

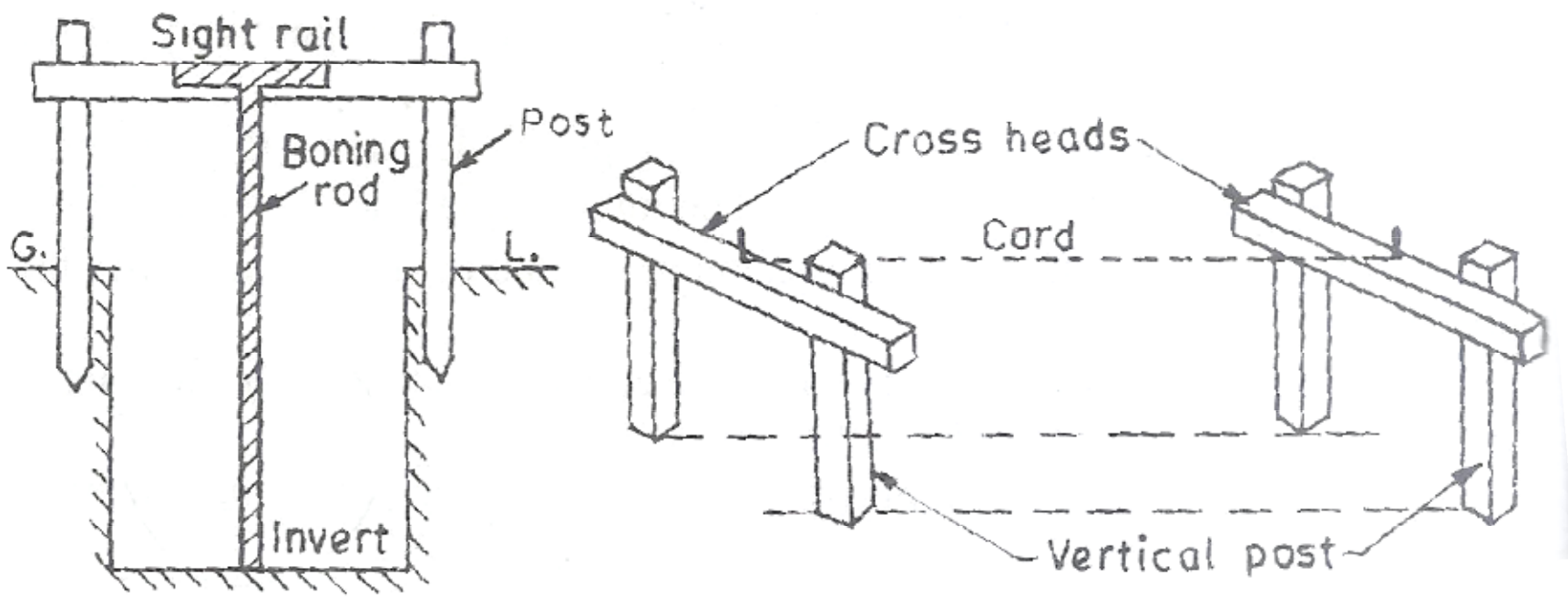
- Fix a peg at O
- Set up theodolite over O
- Bisect the point B. and fix the a number of points along OB.
- Transits the telescope and fix a number of points along OA.
- Set out the line CD at right angle to AB and fix a number of points necessary to define the line CD .
- Set off the distance O1,O2,O3,O4 etc along CD. On side of O and 1a,2b,3c,4d, etc along AB on either side of O. fix arrow at these points.
- In similar manner other corner of the wing walls and abutments may be marked by their co-ordinates and pegs are driven.

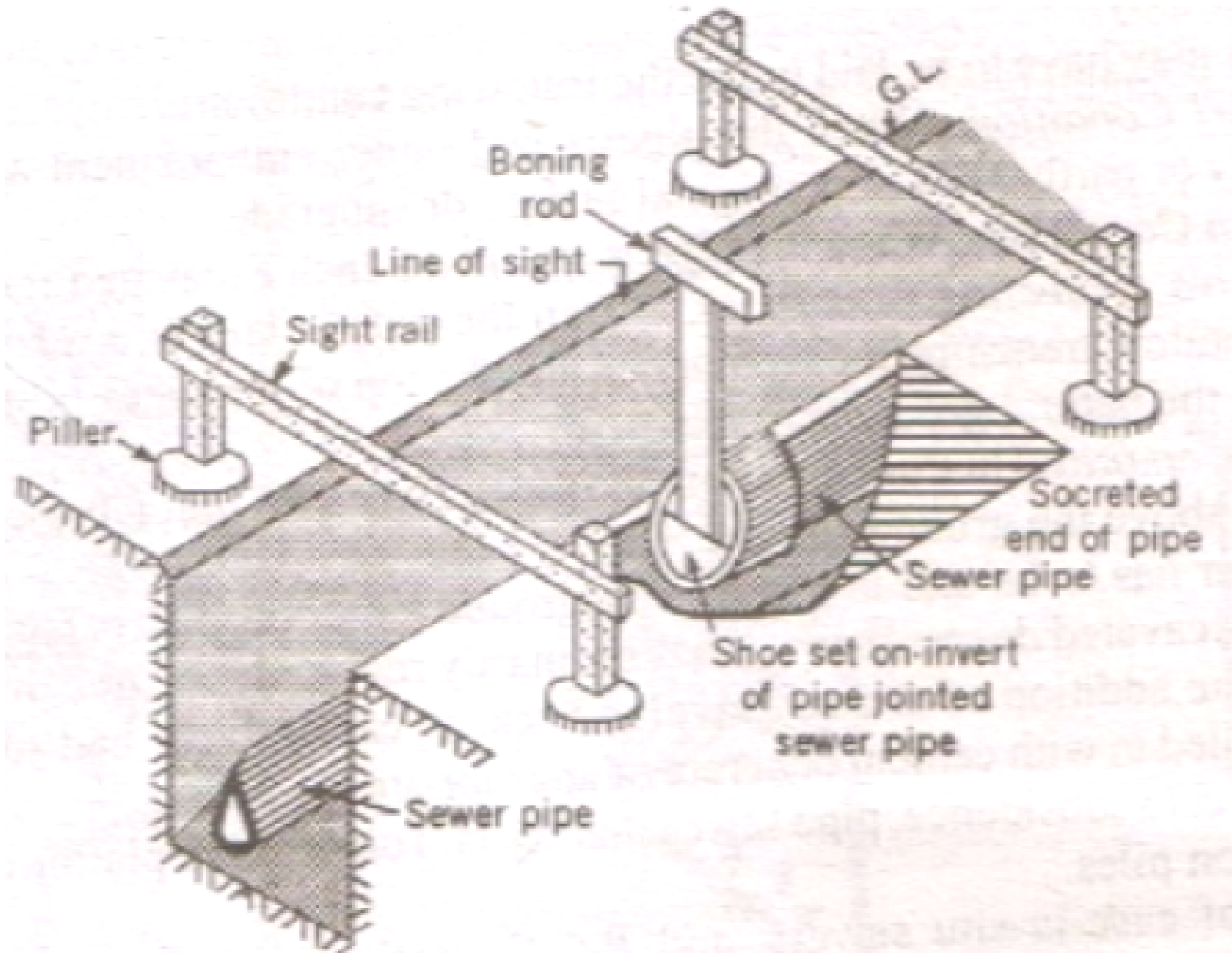


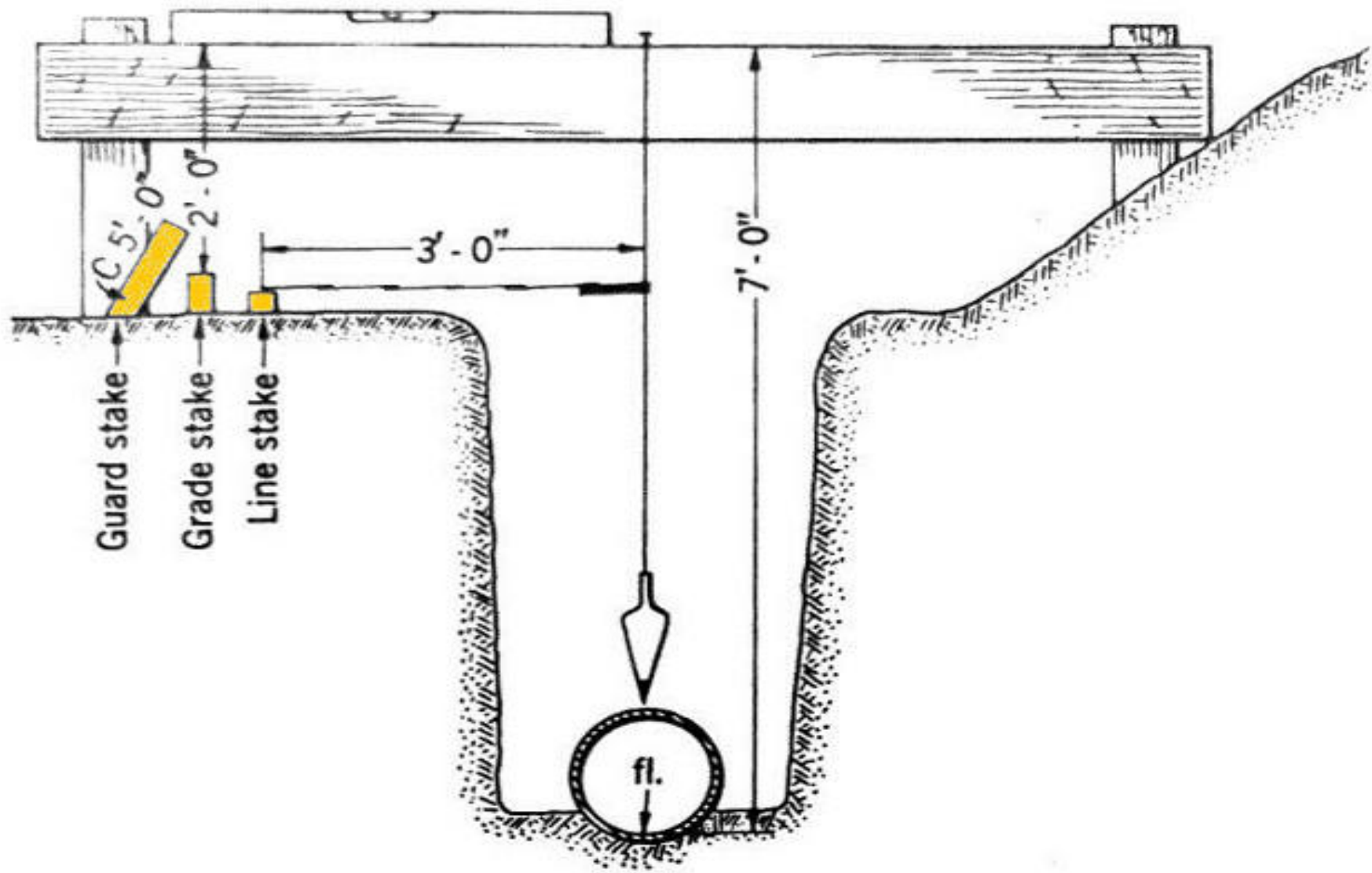


Setting out sewer

- Fix stakes on the ground at the center line of the proposed sewer at 20m intervals.
- Set out a parallel line to the proposed center line of the sewer on one side at a distance apart so that it may not get disturbed during excavation.
- Excavate the sewer trench of desired width and depth.
- Erect cross heads at 30meter apart and each change of gradient and direction.
- Set the top edge of each sight rail truly horizontal with help of a spirit level.
- Drive in a nail on the top edge at the centre of the sight rail to define the centre line of the sewer.
- Establish the gradient of the line joining top edge of two consecutive sight rails as that of the invert of the sewer.
-



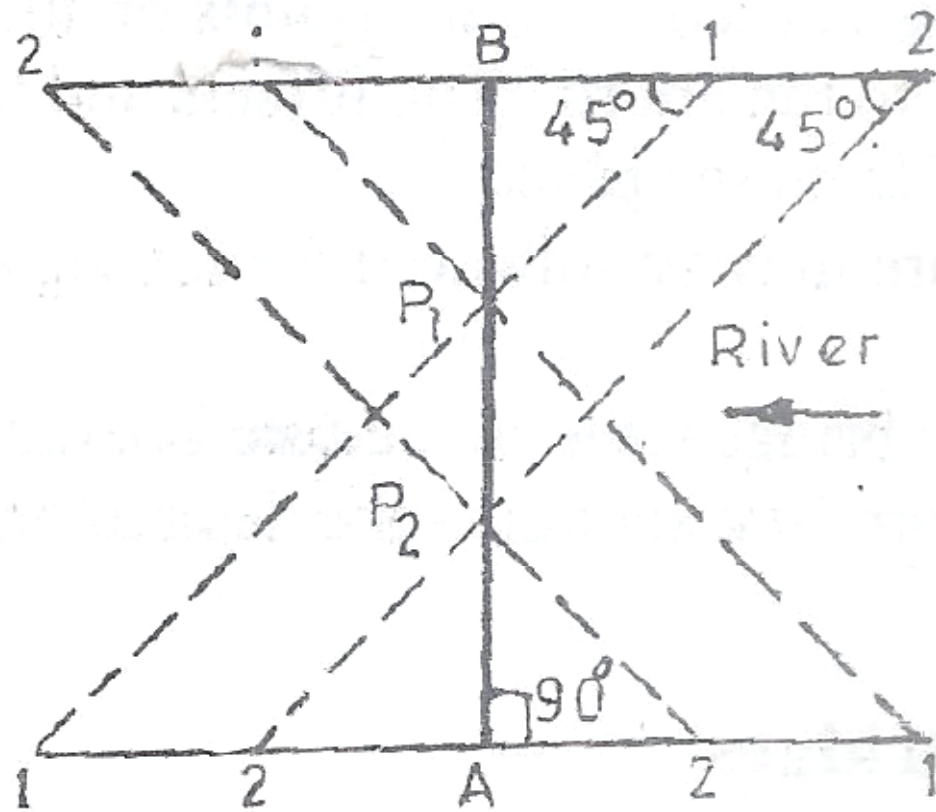




Setting out of bridge pier

- Locating pier position
- Lay one base line on each bank exactly at right angle to center line AB , extending on either side of the centre line.
- Measure the accurate length of centre line AB by triangulation.
- Locate the position of the piers on the centered line a under.
- Calculate the distance BP1, P1P2,P2A between the abutment and piers.
- Measure distances B1,B2 equal to BP1 and BP2 respectively on the base line perpendicular at B on either side.
- Similarly measure distances A2, A1 equal to AP2 and AP1 on the base line perpendicular at A on either side. The intersecting line 1-1& 2-2 make angle of 45 with base lines on opposite banks and also with the centre line AB

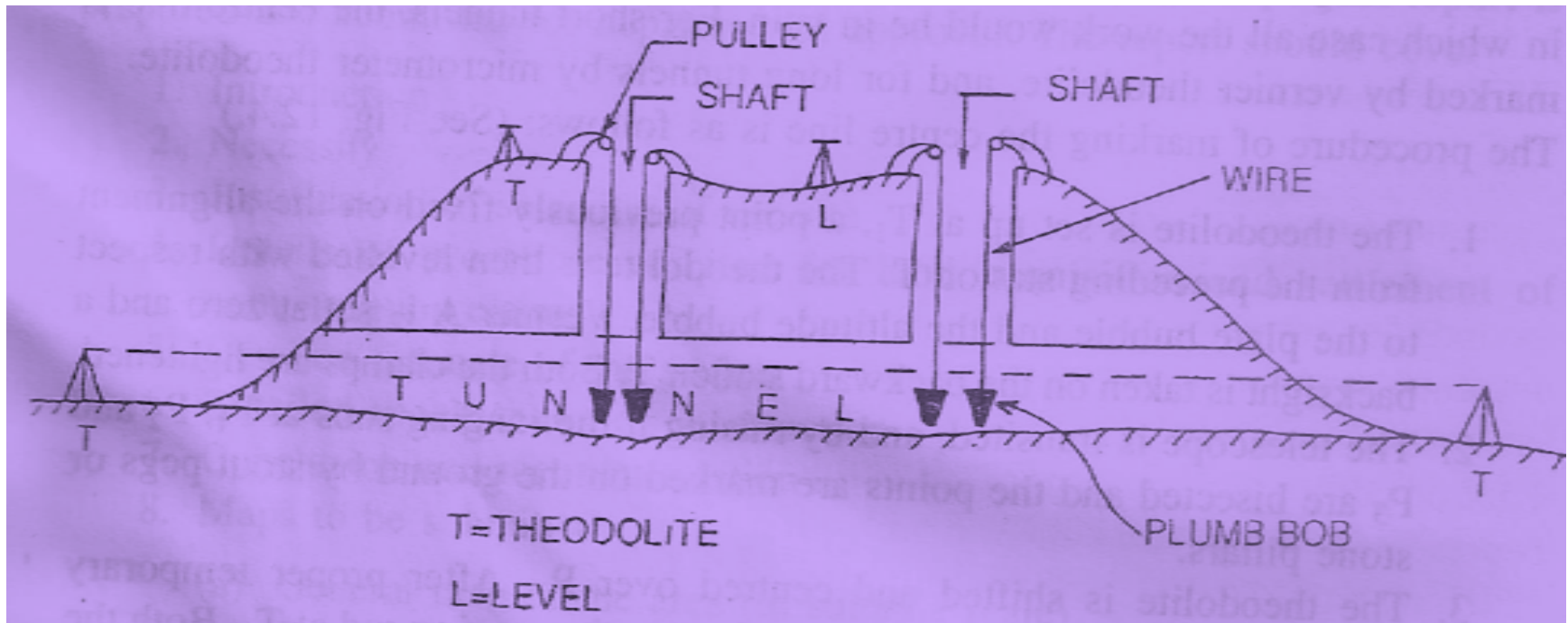
- The position of pier 1 may be located by simultaneously sighting at the intersection of the two intersecting lines 1-1
- Similarly the position of pier 2 may be located by simultaneously sighting at the intersection of the two intersecting lines 2-2

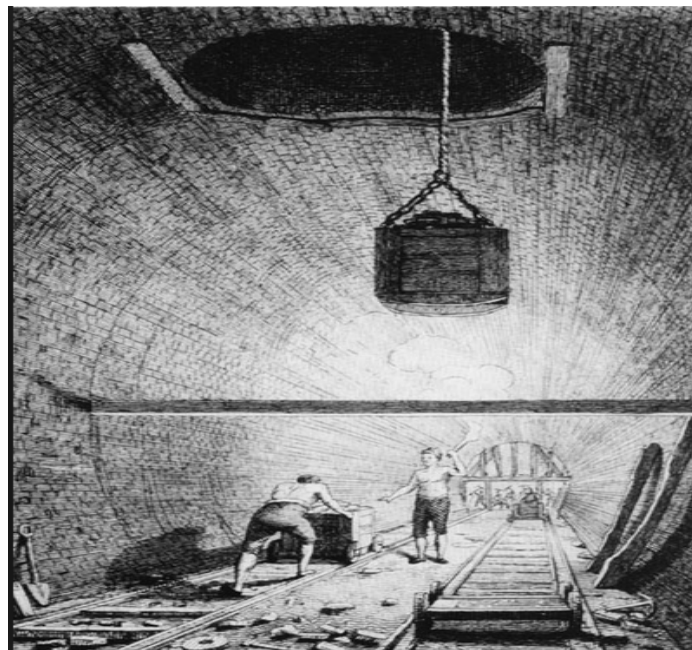
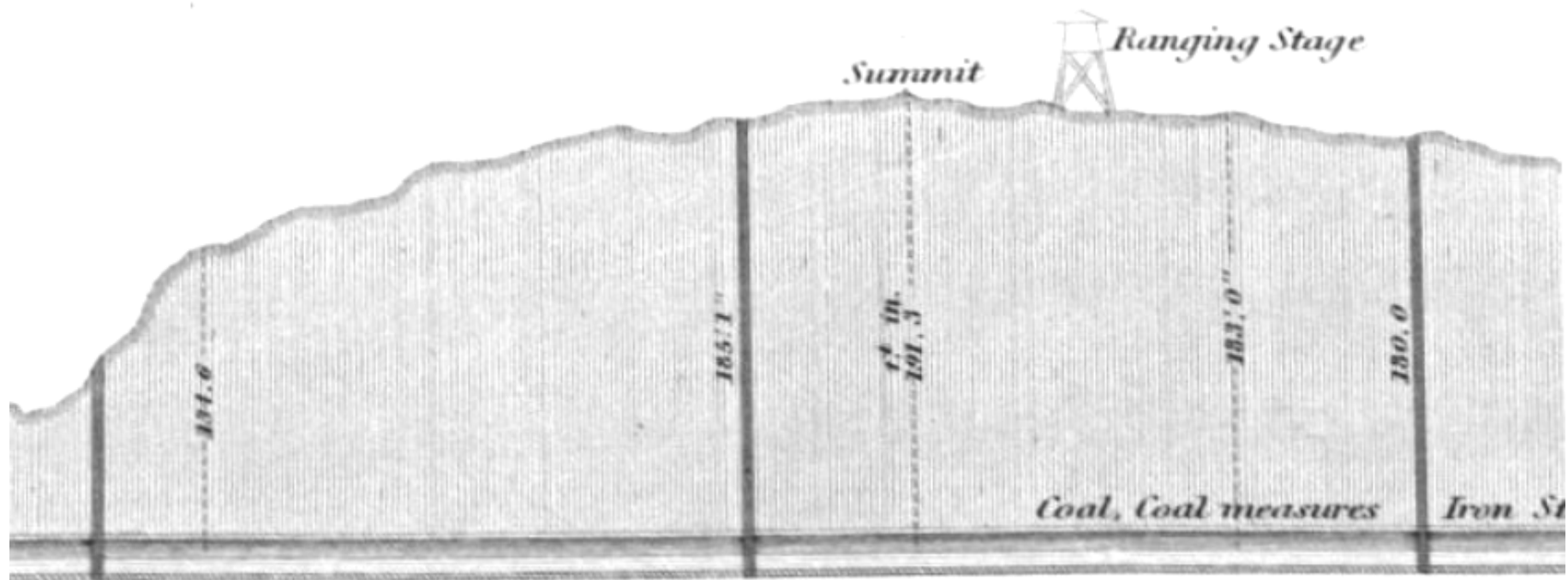




Transfer of center line inside tunnel

- A theodolite is set up on top of the hill at a suitable position to maintain the center line of the shaft.
- With the help of leveling instrument, the RL of both ends of the shaft are determined. Since the bottom level of the tunnel is already determined, the exact depth of the shaft is calculated with reference to the top RL.
- Then the excavation of the shaft is started and verticality is maintained by plumb bob suspended from wire. Excavation is continued until the calculated bottom level is reached.
- the center line inside the tunnel should be maintained by a precise theodolite.





Checking verticality of high rise structures.

- its very easy. first set the total station, that is, you put on tripod and level the bubbles. the place you set it should not be very far from the buildings you are checking for verticality. switch on the total station. you need not to set anything. bisect the bottom of one corner of the building and clamp the alidade of the total station. turn the telescope upwards as you sight through it. if the cross hairs move along the edge of the wall all along to top, then the building is vertical. but there may be small variations which are negligible e.g deviations to left and right as you go up. but if there is a constant deviation to one side, then there is a problem with verticality.



