

vertical, has no hade, but that at A has at an angle of  $70^\circ$  from the vertical to the left hand. The amount of throw is represented as the same in both instances, but with the direction of throw to opposite quarters, so that the level of the beds is raised between the two faults above the uniform horizon which it retains beyond them.

The effect of the inclination of faults is to give the appearance of lateral displacement. In Fig. 264, for example, where the hade of one fault is considerable, the two severed ends (*c* and *d*) of the black bed appear to have been pulled asunder. The horizontal distance to which they are removed does not depend upon the amount of vertical displacement, but upon the angle of hade. A small fault with a great hade will shift strata laterally much more than a large fault with a small hade. It is obvious that the angle of hade must seriously affect the value of a coal-field. If the black bed in the same figure be supposed to be a coal-seam, it could be worked from either side up to *c* and *d*, but there would be a space of barren ground between these two points, where the seam never could be found. The larger the angle of hade the greater the breadth of such barren ground.

**Origin of Faults.**—In countries where the rocks have not undergone much disturbance, that is, where stratified formations are still not far removed from their original approximate horizontality, faults are probably, for the most part, due to mere subsidence of the crust (Normal Faults). Where, on the other hand, rocks have been much plicated, the more gigantic faults have been produced by tangential thrust, whereby one mass of rock has been pushed bodily over another (Reversed Faults, Thrust-planes). In some cases, both lateral thrust and subsidence have been con-