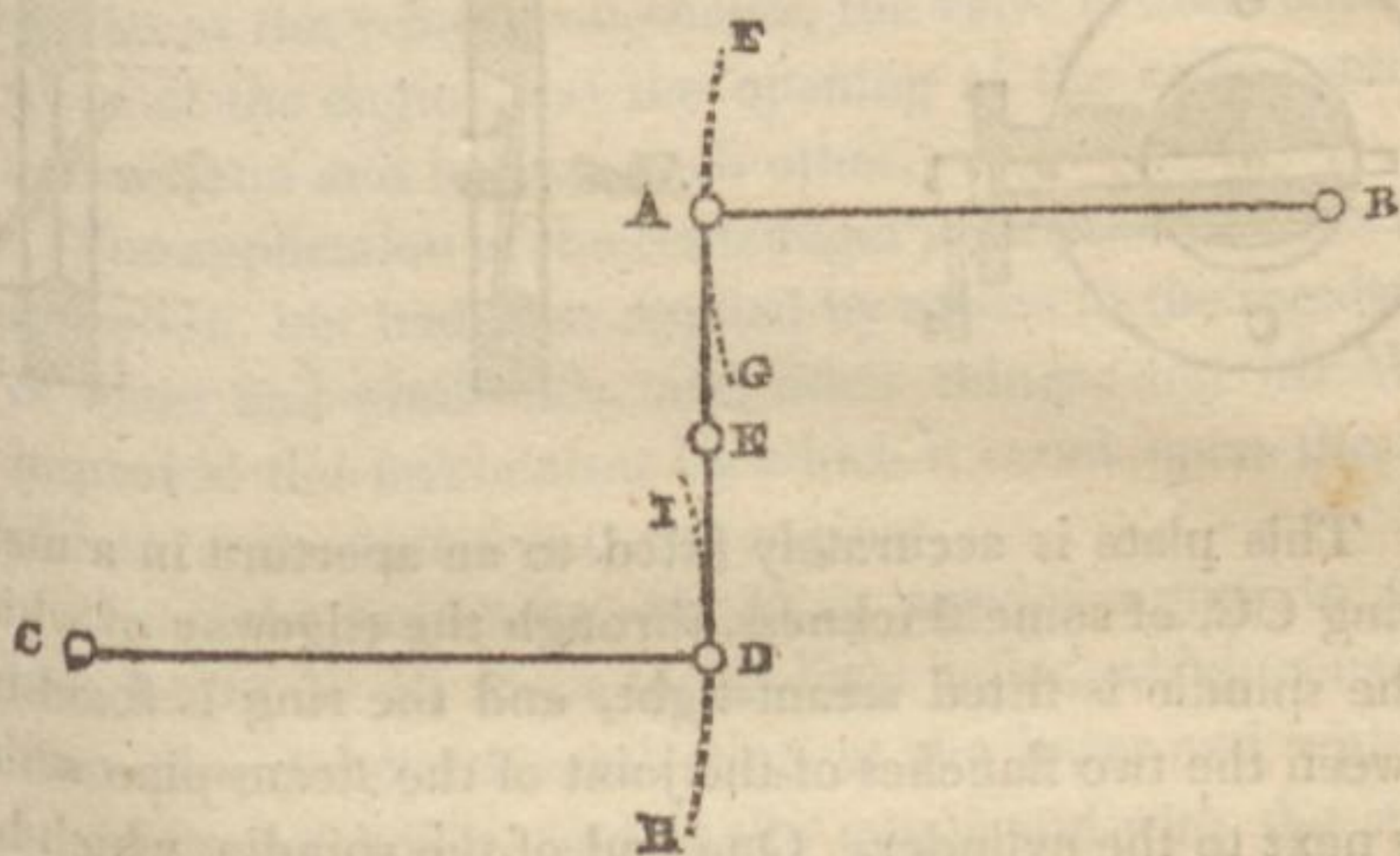


placed in the same vertical plane, nearly as shown in the following diagram, moveable on the centres B and C, and connected by a rod A D, the point E, in the middle of that rod, would describe nearly a straight and perpendicular line, when the ends A and D of the levers, and of that rod, moved in the segments of circles FG, and IH, provided the arch FG did not much exceed 40 degrees, and consequently that if the top of the piston-rod were attached to that point E, it would be guided perpendicularly, or nearly so.



It necessarily followed, that if for convenience the lever CD (which represents what he called the regulating-radius) were made only half the length of the lever AB, (which represents the half length or radius of the working-beam) a point situated at one-third of the length of the rod AD, from the joint A, would then move in a perpendicular line. These were first ideas, but the parallel motion soon was moulded into the form in which it appears in all Boulton and Watt's engines, and in which it is seen in the annexed plate of the second engine at the Albion Mill. A patent for the protection of this, and some other of Mr Watt's inventions, passed the seals in April 1784, but the invention was made in the latter end of 1783.