angles. This approximation is then made closer by using the values of f at points where AB cuts the curve $f(x, y) = \text{const.}$ If the second approximation is not close enough, the process is repeated.

23. Herr Wagenmann correlates successive steps in the theory of evolution with series $-\infty, \cdots -2, -1, 0, 1, 2, \cdots, \infty$ along three coördinate axes developing successively the ideas of motion, mass, the nebular hypothesis and evolution of living organisms and of civilization. He finds that his method leads to a monistic philosophy — in fact to a pan-monism.

A. B. FRIZELL.

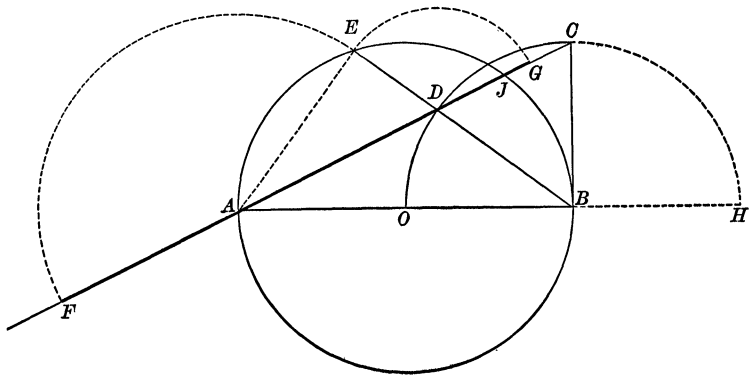
GÖTTINGEN,
November, 1906.

A NEW APPROXIMATE CONSTRUCTION FOR π.

BY MR. GEORGE PEIRCE.

GIVEN a circle with radius r and center at O; to find an approximate construction for πr.

Draw the diameter AOB and the tangent BC at right angles to it. Describe the arc ODC with radius r and center at B.



Draw the line AC cutting the arcs ODC and AB at D and J; also draw the line BDE through B and D cutting the given circle at E. Then $AD + 3DE = \pi r$ approximately.