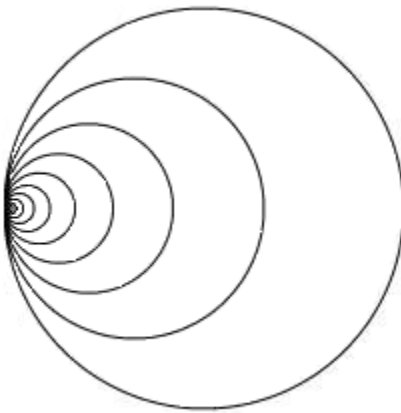


## Drawing to accompany Additional Exercise V.2.8(b)

The Hawaiian earring is a union of circles which are tangent to the  $y$  – axis at the origin, lie in the right hand half – plane defined by that line, and have decreasing radii which go to  $0$  in the limit. One way of distinguishing the weak and strong topologies is the following: Suppose that we pick one point on each circle, never choosing the common point of all the circles. In the weak topology these points form a closed subset, but in the strong topology they have a limit point (namely, the point which is common to all the circles).



(Source: [http://en.wikipedia.org/wiki/Semi-locally\\_simply\\_connected#mediaviewer/File:Hawaiian-Earring-250.jpg](http://en.wikipedia.org/wiki/Semi-locally_simply_connected#mediaviewer/File:Hawaiian-Earring-250.jpg))