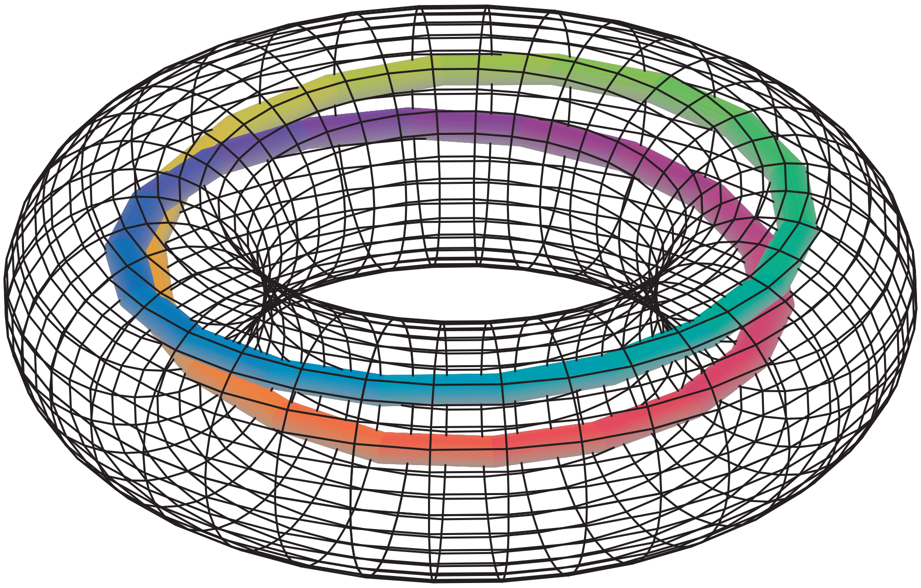

Figure 14.1.3: (A) first step in the construction of the Dyadic Selenoid

14.1.4 Zig-zag Circle

The *Zig-zag Circle* is obtained easily :-)

14.1.5 M-Continuum

The *M-Continuum* is obtained easily :-)

14.1.6 Buckethandle

The *Buckethandle* is created from the Cantor Ternary Set C with this procedure:

(i) we join any two points a and b in C symmetric with respect to $1/2$ with a semicircle in the upper half plane with the centre in $(1/2, 0)$,

(ii) we join any two points of C in the interval $2/3^n \leq x \leq 3/3^n$, $n \geq 1$, with a semicircle with the centre in $(5/(2 \cdot 3^n), 0)$ in the lower half plane.

This continuum is often called the *Knaster's Buckethandle* continuum (see Figure (A)).

This kind of curiosities in continuum theory is connected with common boundary of several plane regions. In 1904 A. Schönflies started to publish a sequence of papers [6] which became an important step in development of continuum theory. Relying heavily on intuition, he claimed that there do not exist three regions in the plane with common boundary. The claim was refused by L. E. J. Brouwer in 1910 [1] who constructed continua which are common boundary of three regions and showed that they are *indecomposable*, i.e., such