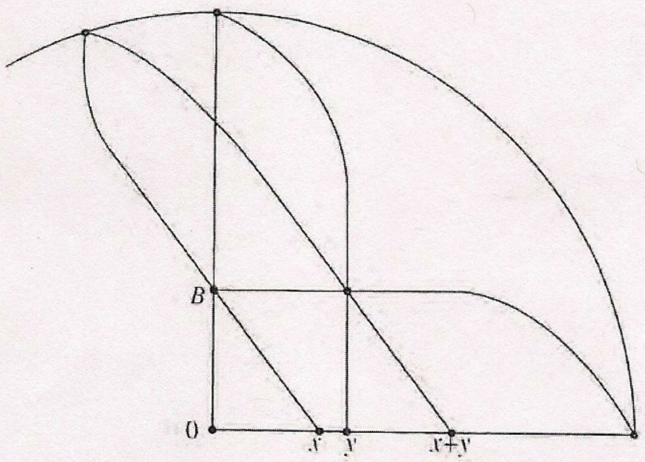

FIGURE 15. Addition in Mnëv's construction. The large circle is the line at infinity.

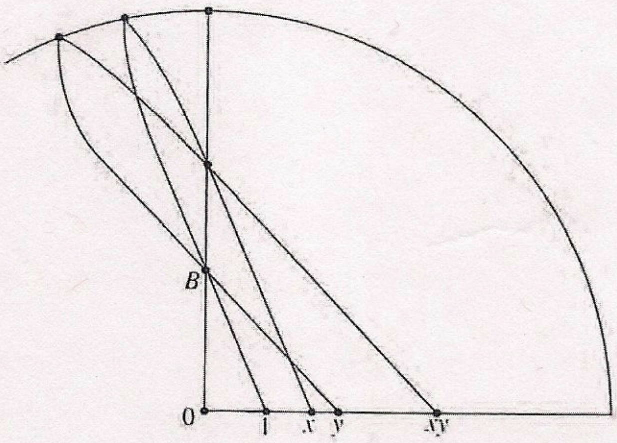

FIGURE 16. Multiplication in Mnëv's construction. The large circle is the line at infinity.

We next place points $P_{x_1}, P_{x_2}, \ldots, P_{x_n}$, corresponding to our variables, on the x-axis. The x-coordinate of point P_{x_i} will be the value of the corresponding variable x_i. To perform an addition we introduce the set of points in Figure 15, and to perform a multiplication we introduce the set of points in Figure 16. The y-coordinate of point B in Figures 15 and 16 will be different for each equation; we will denote these points by $B_1, B_2, \ldots$, in the order that we place these equations in the point configuration. Performing additions and multiplications in a similar manner is an old technique; Mnëv's contribution was to realize that if the multiplications and additions are done in this manner, and point B_i in Figures 15 and 16 is placed sufficiently closer to y_∞ than points $B_1, B_2, \ldots, B_{i-1}$, then the resulting line arrangement has a unique combinatorial structure, and thus the realizability