The vertical lines OA and O'A' are traces of planes of symmetry and their distance is half a wave length.

In the case previously discussed this model succeeded in representing correctly at least some features of Taylor instability. In particular, it was found that the heavy fluid penetrates into the vacuum with a spike which becomes thinner as the phenomenon progresses. Actually the front of this spike moves with uniformly accelerated motion with an acceleration that evidently should be equal to the gravitational acceleration g and which, due to the crudeness of the model, turns out to be $8/7\ g$. The upward motion of the vacuum bubble into the fluid is represented less correctly. According to the results of Taylor, this bubble should move upward with a constant limiting velocity. The model fails to reproduce correctly this feature and the displacement of the top of the bubble is asymptotically proportional to $\sqrt{t}$.

As a contribution to the discussion of the Taylor instability between two fluids of different densities, ρ and σ $(\rho > \sigma)$, we have tried to explore a similar model for this more complicated case. The notations are slightly different from those used in the previous memorandum and are clearly shown in Figure 1.

In order to write the Lagrangean equations for the system, it is necessary, to obtain an expression for the kinetic energy of the system as a function of the two parameters, x and y, that characterize its position and of their time derivatives, $\dot{x}$ and y. This has been done using essentially the same procedure followed in the previous memorandum. In the present case we were interested particularly in a description of the late phases of the phenomenon and for this reason only one of the three terms of the kinetic energy previously used was