Consider a square coil of sides 2a oriented in the y-z plane such that its center is at the origin and the normal points in the +x direction. The corners are at (0,-a,-a), (0,-a,+a), (0,+a,-a) and (0,+a,+a).

Also assume a **B** field that extends over all space for $y < 0$ but = 0 for all space $y > 0$ and points in the y direction.

Now, impart a velocity to the coil in the +x direction (velocity parallel to normal). There will be an emf generated in the $y = -a$ side of the coil but none in the other three.

What is the emf of the bottom side? Note that $\partial\mathbf{B}/\partial t = 0$ everywhere inside the loop.

So Maxwell's equations do not cover this situation unless del x **E** = $-\partial\mathbf{B}/\partial t$ is modified.

And the answer is that a term del x (**v** x **B)** must be added to the right-hand side.

Note that the Blv law works fine for this situation (as for all others I can think of).