A new form of the proton force balance equation for the plasma consisting of collisionless protons and magnetized electrons is obtained. In the equation, the electric field is expressed through the magnetic field and the divergence of electron pressure tensor. The latter is required for the correct determination of boundary conditions in models of current sheets to control the force balance in the models of that type. From this, a general form of the force balance equation in a one-dimensional current sheet is obtained, and effects of electron pressure anisotropy are considered. We reproduce realistic stationary configurations of current sheets using novel methods of numerical simulations and the Vlasov equation solving.