```
M, m = var("M m")

U(A1, B1, A2, B2, A3, B3) = 2*1/9*(-M*(A1*B1 + A2*B2 + A3*B3) + m*(A1*(B2+B3) + A2*(B1+B3) + A3*(B1+B2))

# grad = vector([i for i in U.diff()]).norm()
# solve(grad, (A1, B1, A2, B2, A3, B3))
grad = vector([i for i in U.diff()]).norm()
# solve(grad, (A1, B1, A2, B2, A3, B3))

idx = [0,1]
res = []
ind = []
for A1 in idx:
    for A2 in idx:
for A3 in idx:
    for B1 in idx:
for B2 in idx:
    for B3 in idx:
res.append(U(A1, B1, A2, B2, A3, B3))
if U(A1, B1, A2, B2, A3, B3) == 4/9*m:
    ind.append((A1, B1, A2, B2, A3, B3))
```