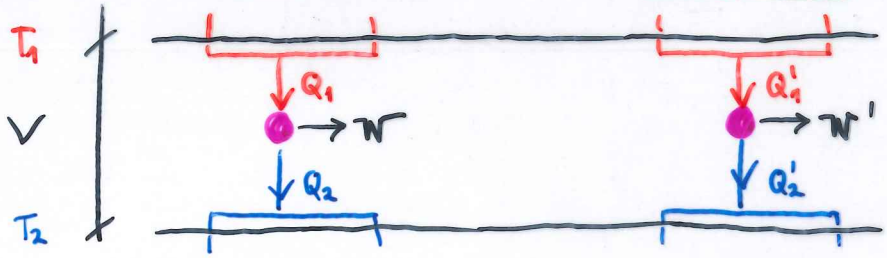
(2) - CARNOT-EN MOTOREAK FINKATURIKO TENPERATUREN ARTEKO ETEKIN MAXIMOA

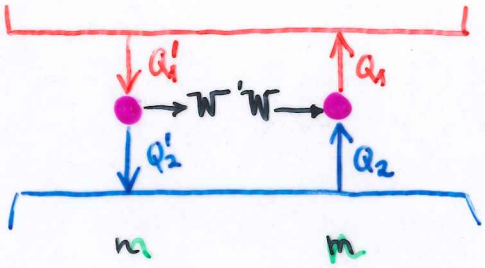
$$\eta = \frac{|W|}{|Q_1|} = \frac{|Q_1|-|Q_2|}{|Q_1|} \Rightarrow \boxed{\eta_C = 1 - \frac{|Q_2|}{|Q_1|}} > \boxed{\eta^* = 1 - \frac{|Q_2'|}{|Q_1'|}} \Rightarrow \boxed{\frac{|Q_2|}{|Q_1|} \leq \frac{|Q_2'|}{|Q_1'|}}$$



n ZIKLO m ZIKLO (n,m) OSOAK

$n|Q_2| = m|Q_2'|$ $\{ nQ_2 + mQ_2' = 0 \}$ HAUXE DA EGIN DUGUN AUKERA

- MIHIZTATUKO DITUGU, (n,m) ZIKLO BAKARRA, CARNOT-EN MOTOREARI BUELTA



$\boxed{Q_1'' \neq 0 \quad W'' \neq 0 \quad Q_2'' = 0}$

ZIKLO BAKAR OSOARI LEHENENGO PRINTZIPIOA APLIKATUKO DIOGU:

$$nQ_1 + mQ_1' = \Delta U - W'' \qquad \Delta U = 0 \text{ ZIKLOA BAITA}$$

$$n_1Q_1 + mQ_1' = -W''$$

$$n_1Q_1 + mQ_1' > 0 \qquad \text{EZINEZKOA !!} \quad 2.\text{ PRINTZIPIOAREN KO.}$$

$$\boxed{n_1Q_1 + mQ_1' \leq 0}$$

$$\left.\begin{aligned} -n|Q_2'| = -m|Q_2| &\Rightarrow n|Q_2'| = m|Q_2| \\ n|Q_1'| \leq m|Q_1| &\Rightarrow n|Q_1'| \leq m|Q_1| \end{aligned}\right\} \quad \boxed{\frac{|Q_2|}{|Q_1|} \leq \frac{|Q_2'|}{|Q_1'|}}$$

(= CARNOT-EN KASUAN)