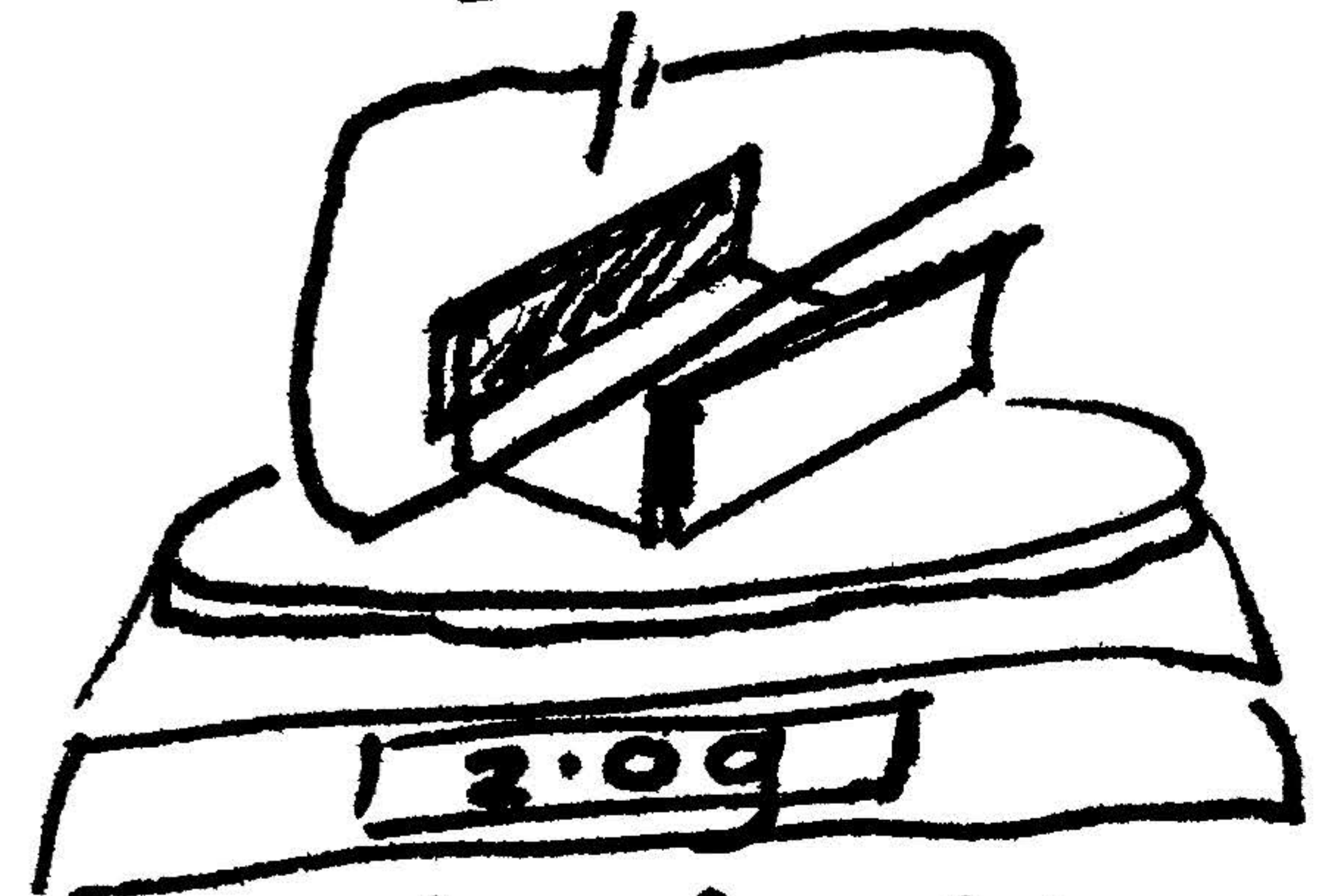


**FORCE ON WIRE**

$F = BIL$



FORCE = (mxg) after taring

**MOTOR EFFECT**

MAG FIELD STRENGTH

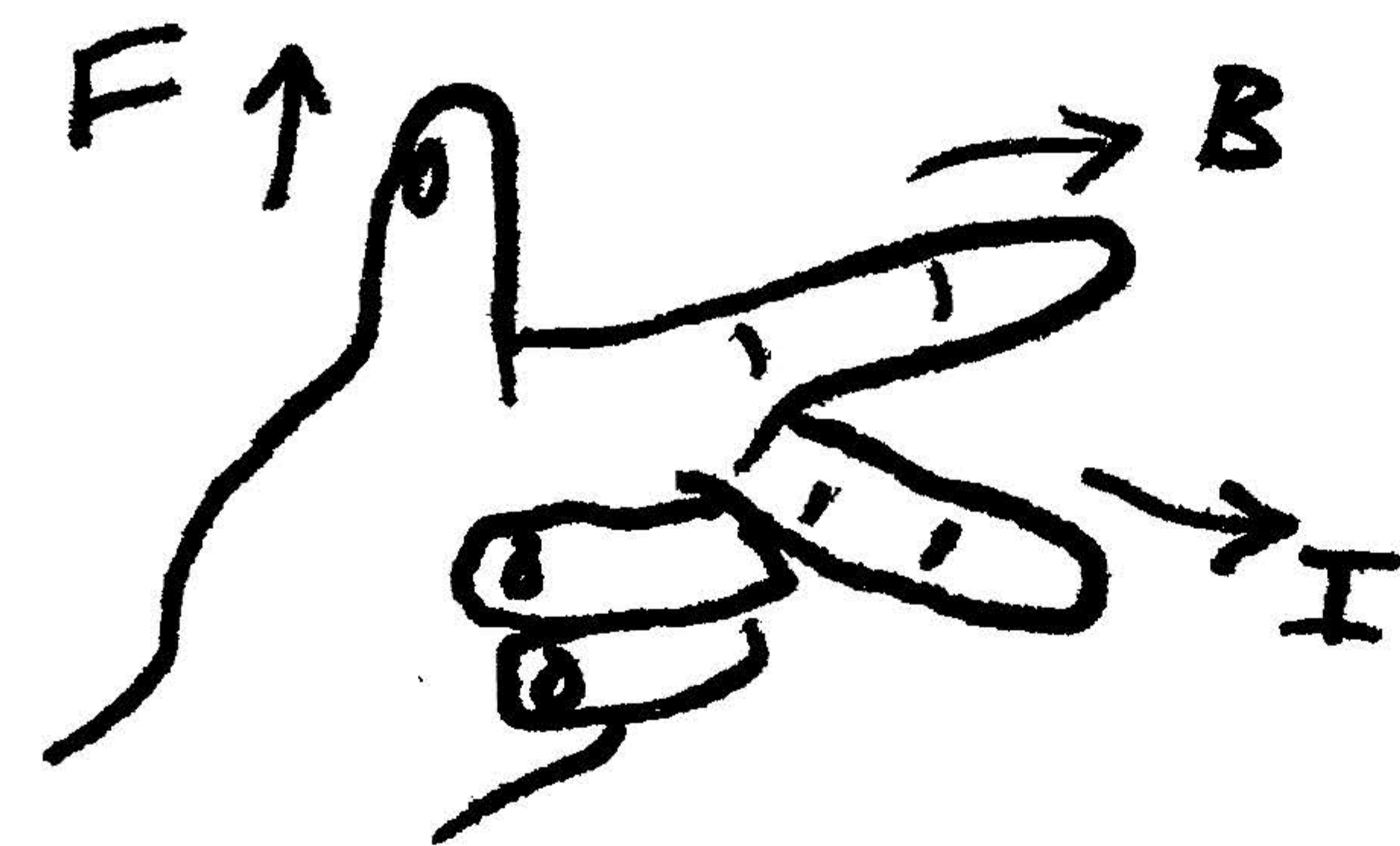
= MAG FLUX DENSITY

SYMBOL B

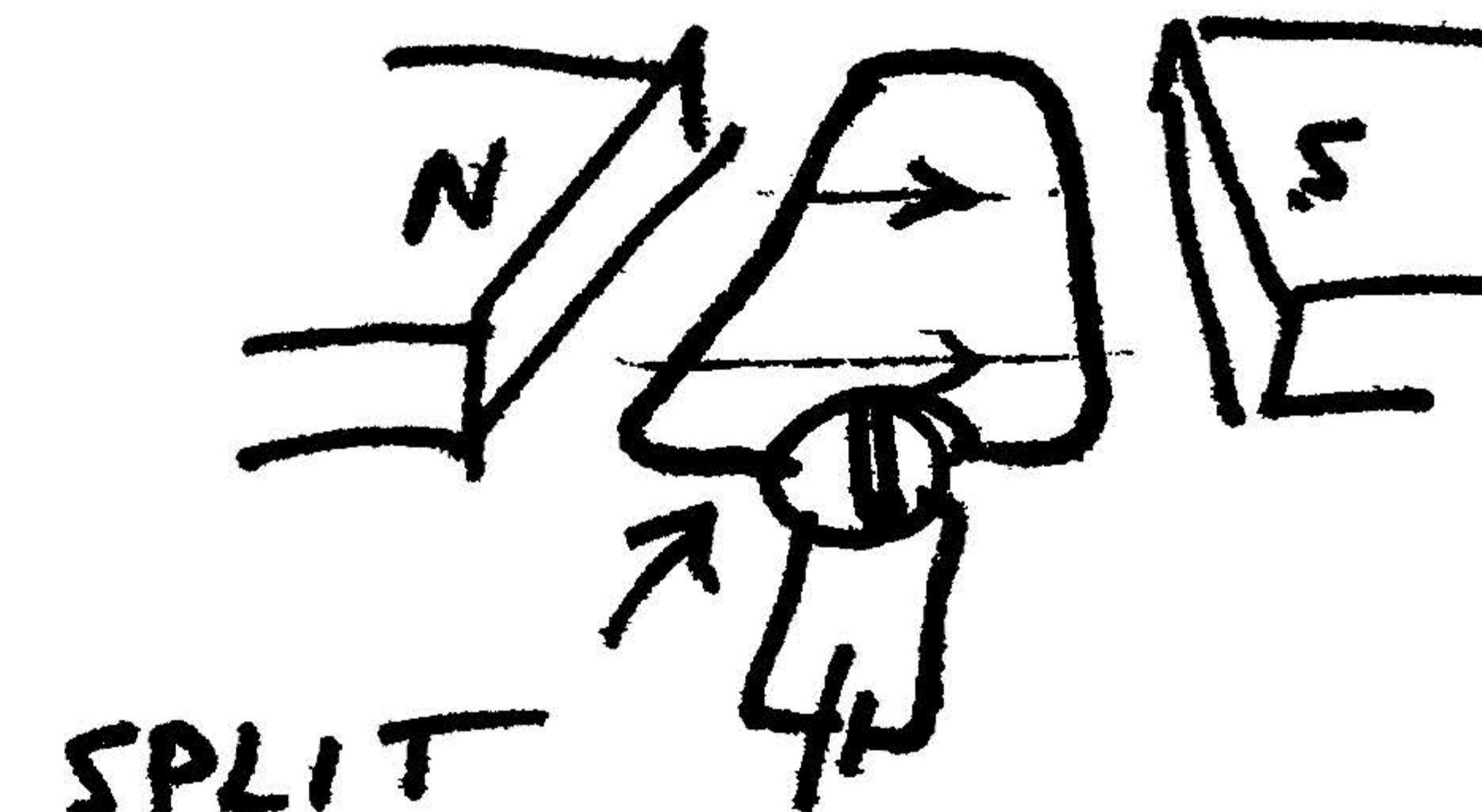
UNIT T (TESLA)

**DIRECTION OF FORCE**

FLEMING'S LH RULE



**MOTOR**



SPLIT RING COMMUTATOR

- TO FLIP

CURRENT EVERY

1/2 TURN, SO

IT KEEPS

SPINNING.

FASTER →

- HIGHER P.D.

- STRONGER

MAG FIELD

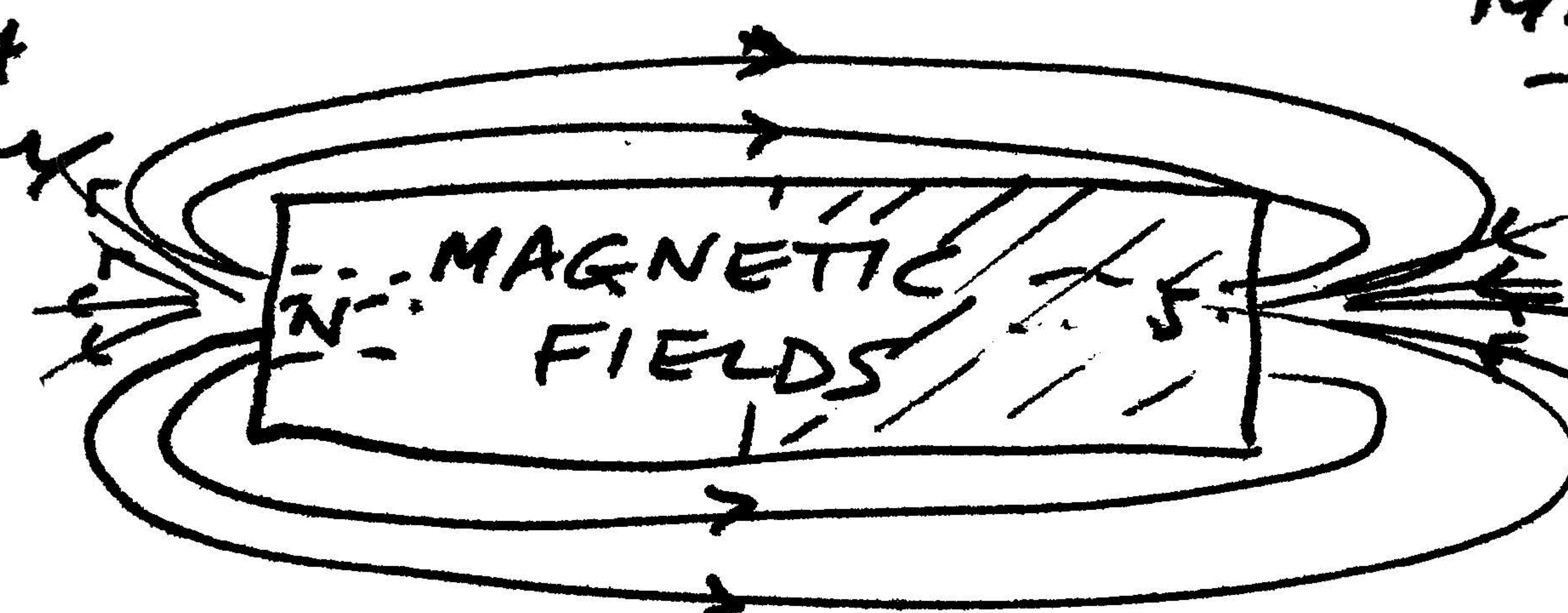
- MORE TURNS

FIELD LINES: SHOW DIR

OF FORCE ON 'MINI N POLE'.

NEVER BREAK/CROSS

(N → S)



**TRANSFORMERS**

(WIRELESS ELECTRICITY)

NEEDED TO STEP-UP VOLTAGE

(+ STEP DOWN CURRENT)

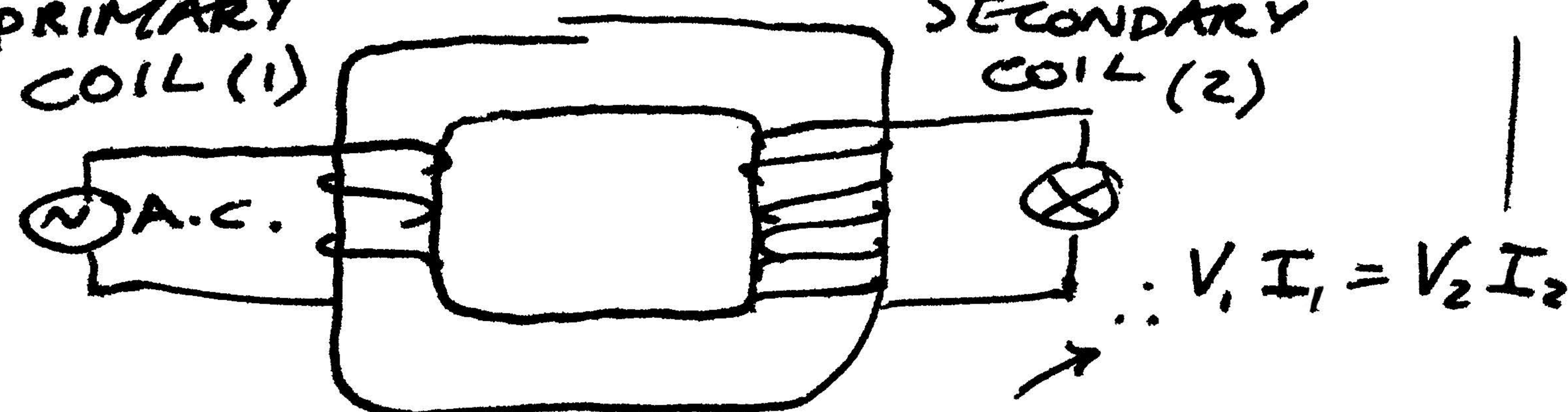
OUTSIDE POWER STATION, SO

LESS ENERGY LOST DUE TO

RESISTANCE OF CABLES IN NAT. GRID.

PRIMARY COIL (1)

SECONDARY COIL (2)



IF 100% EFFICIENT,  $P_1 = P_2$

MORE TURNS = HIGHER V

$\frac{V_1}{V_2} = \frac{N_1}{N_2}$

IF CURRENT ALLOWED TO

FLOW IN SEC. COIL, BACK E

PRODUCED → I IN PRI. COIL SMALL

(LENZ'S).

LOW R COILS

SOFT IRON

CORE

(EASY

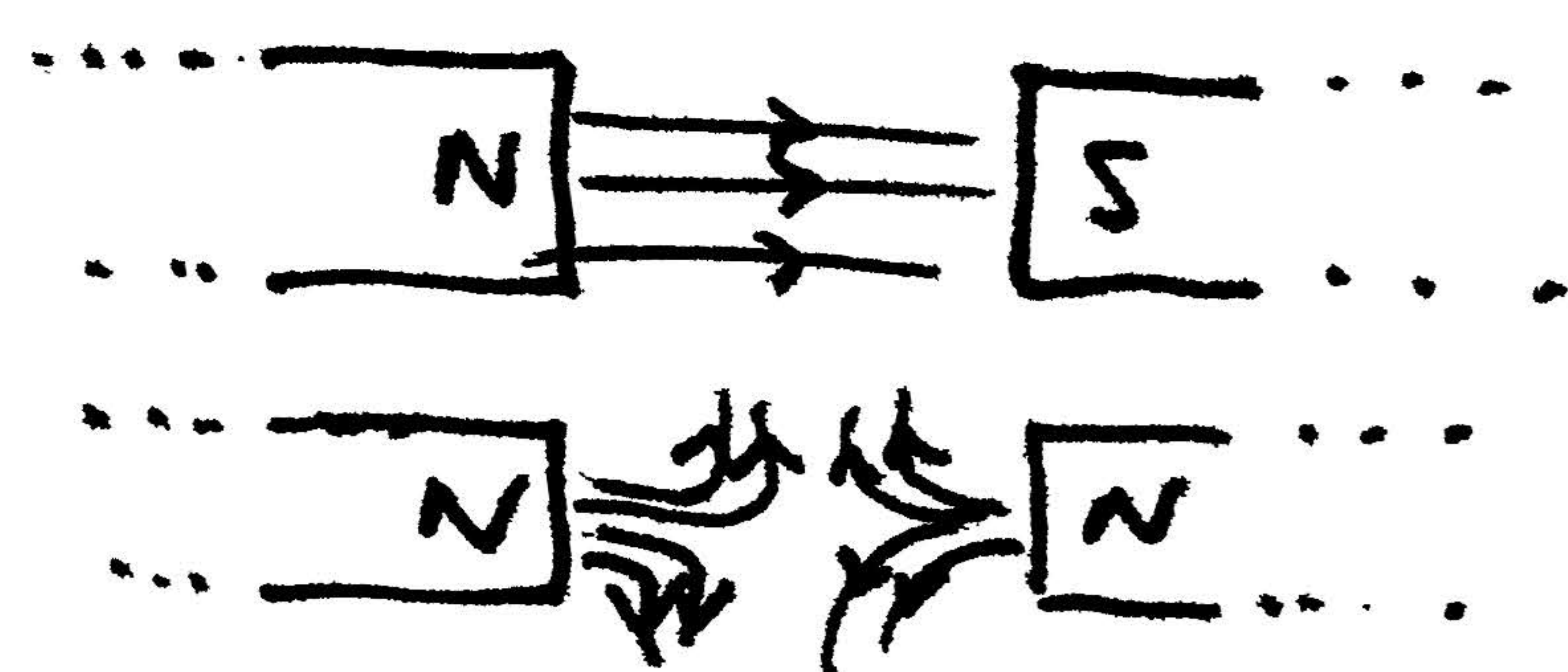
MAGNETISED)

LAMINATED

CORE

EDDY

CURRENTS)



CLOSER

STRONGER

**DYNAMO EFFECT/INDUCTION**

IF WIRE EXPERIENCES CHANGING MAG FIELD/FLUX, CURRENT IS INDUCED. (DYNAMO SIMILAR)

TO MOTOR, NO SPLIT RING NEEDED,

\* INCREASE OUTPUT A.C. OUT

- SPIN FASTER

- STRONGER MAG FIELD

- MORE TURNS IN COIL.

\* USE FLEMING'S RH RULE

('GENERATOR')