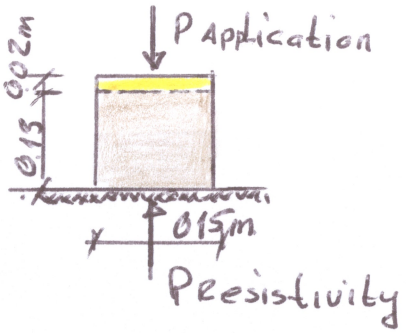
SECTION 3

ATOMIC EQUATION

AND

ITS APPLICATIONS

CALCULATIONS FOR CONCRETE BY USING ATOMIC EQUATION



What is the force value to be applied on the concrete ,with grinding values 0.02 m Per 25 seconds, in order to become cubical shape ?

data : Bs 160 h=0.02 m t=25 sec.

$\sigma = p^2/h^2/v$ v=h/t ; 0.02/25=0.0008 m/sec.

at 0.01 m → 1600 000 = $p^2/0.01^2/0.0008$	P=44.7 kg sec./m
at 0.02 m → 1600 000 = $p^2/0.02^2/0.0008$	P=894 kg sec./m
at 0.03 m → 1600 000 = $p^2/0.03^2/0.0008$	P=1342 kg sec./m
at 0.04 m → 1600 000 = $p^2/0.04^2/0.0008$	P=1789 kg sec./m
at 0.05 m → 1600 000 = $p^2/0.05^2/0.0008$	P=2236 kg sec./m
at 0.06 m → 1600 000 = $p^2/0.06^2/0.0008$	P=2683 kg sec./m
at 0.07 m → 1600 000 = $p^2/0.07^2/0.0008$	P=3130 kg sec./m
at 0.08 m → 1600 000 = $p^2/0.08^2/0.0008$	P=3537 kg sec./m
at 0.09 m → 1600 000 = $p^2/0.09^2/0.0008$	P=4025 kg sec./m

at 0.10 m → 1600 000 = $p^2/0.10^2/0.0008$ P=4412 kg sec./m

at 0.11 m → 1600 000 = $p^2/0.11^2/0.0008$ P=4910 kg sec./m

at 0.12 m → 1600 000 = $p^2/0.12^2/0.0008$ P=5367 kg sec./m

at 0.13 m → 1600 000 = $p^2/0.13^2/0.0008$ P=5813 kg sec./m

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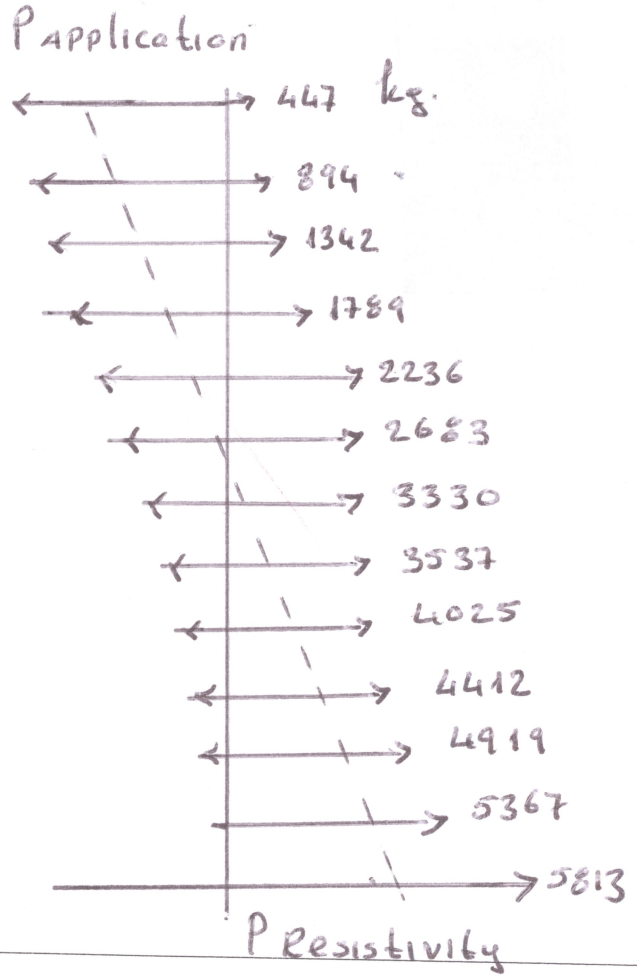
ΣP=40635 kg sec./m

$A = \Sigma P/\sigma$; 40635/1600000 = 0.0254 m^2

a^3 = 15,9 = 15x15.9x15.9



if ; P application = 0

P resistance = max

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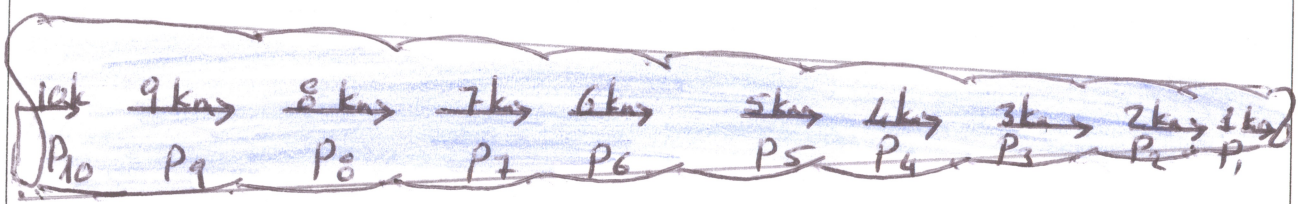
DETERMINATION OF THE PRESSURE AND THE SECTION ON THE PIPING

DATA :

$\sigma b = 600$ t/ m^2
L=10 km
v=01 km/sec.
p=?
A=?

$$\sigma b = P^2/L^2/v \qquad A = P / \sigma b$$

P_9=697 tsn / m	P_7=542	P_5=387	P_3=232	$P_{1''}$=77
V=0.1 km / sec.	V=0.1	V=0.1	V=0.1	V=0.1
A=1.16 m^2	A=0.90	A=0.65	A=0.39	A=0.1

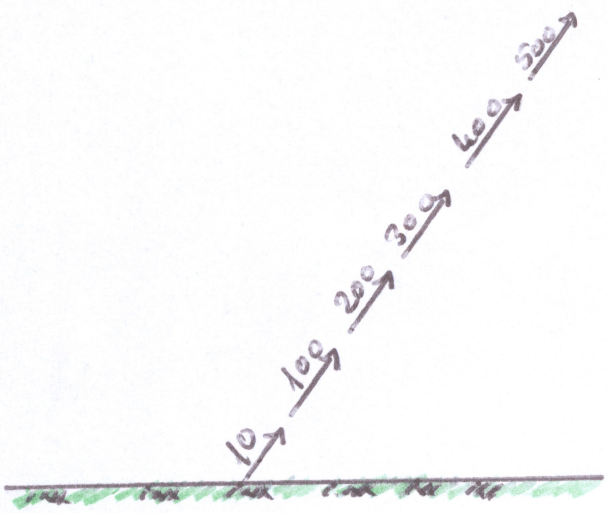


P_{10}=775 tsn / m	P_8=619	P_5=465	P_4=310	P_2=115
V=0.1 km / sec.	V=0.1	V=0.1	V=0.1	V=0.1
A=1.29 m^2	A=1.03	A=0.77	A=0.52	A=0.26

THE FORCE AND THE DIMENSIONS OF A SATELLITE AT 500 KM DISTANCE

DATA : L=500 km ; V=10 km/sec. $\sigma ç = 30000\ t/m^3$

$$\sigma = P^2/L^2/v \qquad A = \frac{P}{\sigma ç}$$



at 10 km → $30000 = p^2/10^2/10$ → P=547.72 tsn/m

at 100 km → $30000 = p^2/100^2/10$ → P=5477.72 tsn/m

at 200 km → $30000 = p^2/200^2/10$ → P=10954.45 tsn/m

at 300 km → $30000 = p^2/300^2/10$ → P=16431.68 tsn/m

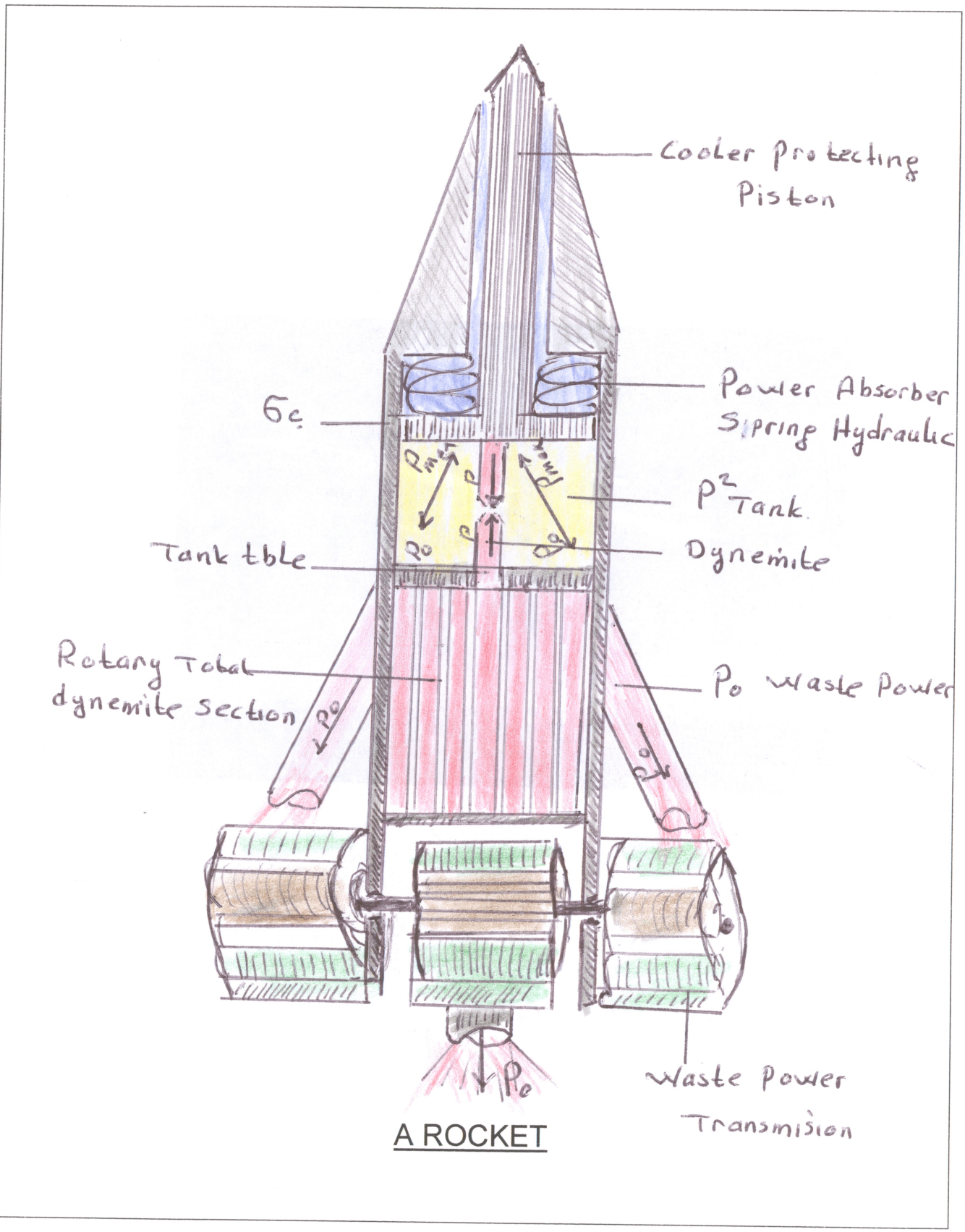
at 400 km → $30000 = p^2/400^2/10$ → P=21908.90 tsn/m

at 500 km → $30000 = p^2/500^2/10$ → P=27386.13 tsn/m

Dimensions $A=P_{500}/\sigma c = 27386.13 / 30000 = 1\ m^2$

WEIGHT : 1x1x1x7.4 = 7.4 t St3 steel

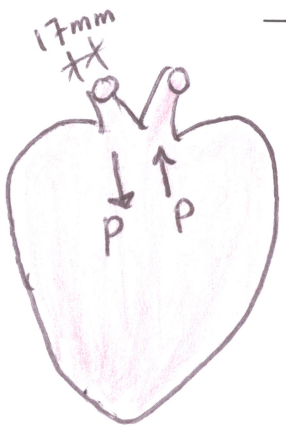
ENGINE POWER : 547720 / 775 = 706.74 horse power


Cooler Protecting Piston
Power Absorber Spring Hydraulic
Gc
P² Tank
Dynemite
Tank tble
Rotary Total dynemite section
Po Waste Power
Waste Power Transmision

A ROCKET

CALCULATIONS FOR HEART AND BLOOD PRESSURE

$$\sigma d = \frac{P^2}{\frac{L^2}{V}} \quad ; \qquad A = \frac{P}{\sigma d}$$



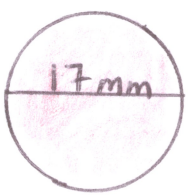
DATA :

L=2500 mm ; V=40 mm/sec. $\sigma ç = 1.8$ gr/mm^2

at 1 mm → $1.8 = p^2/1^2/40$ → P=0.212 gr sec./mm

at 1000 mm → $1.8 = p^2/1000^2/40$ → P=212 gr sec./mm

at 2500 mm → $1.8 = p^2/2500^2/40$ → P=530 gr sec./mm



Required vein section :

$$A = \frac{530}{1.8} = 294.63 \text{ mm}^2$$

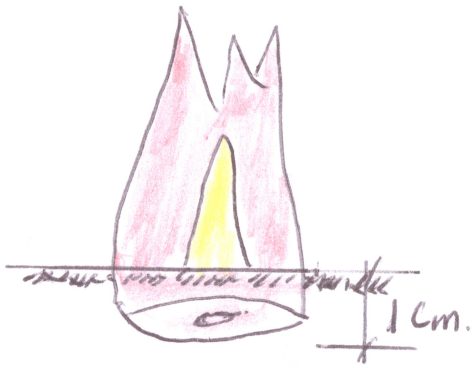
FORCES APPLIED ON A TOOTH

Values and dimensions of the forces applied on a tooth with height 1 cm at 20 seconds.

Data :

$$\sigma d = \frac{P^2}{\frac{h^2}{v}}$$

t=20 sec.



h=1 cm, σ tooth = 20 kg/cm^3

V=h/t = 1/20 = 0.05 cm/sec

at 0.1 cm → 20 = $p^2/01^2/0.05$ = 2 kg sec./cm

at 0.2 cm → 20 = $p^2/02^2/0.05$ = 4 kg sec./cm $\quad A_2 = \frac{2}{20} = 01\ cm^2$

at 0.3 cm → 20 = $p^2/03^2/0.05$ = 6 kg sec./cm $\quad A_3 = 03\ cm^2$

at 0.4 cm → 20 = $p^2/04^2/0.05$ = 8 kg sec./cm $\quad A_4 = 04\ cm^2$

at 0.5 cm → 20 = $p^2/05^2/0.05$ = 10 kg sec./cm $\quad A_5 = 05\ cm^2$

at 0.6 cm → 20 = $p^2/06^2/0.05$ = 12 kg sec./cm $\quad A_6 = 06\ cm^2$

at 0.7 cm → 20 = $p^2/07^2/0.05$ = 14 kg sec./cm $\quad A_7 = 07\ cm^2$

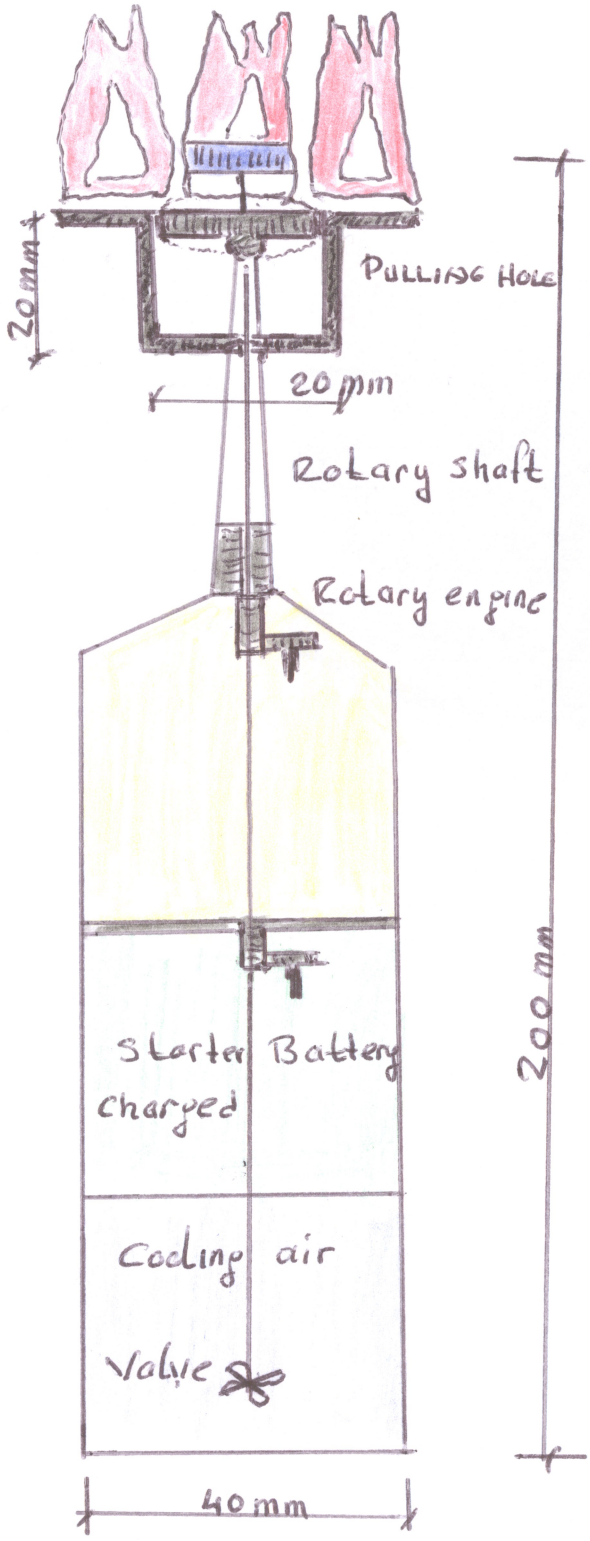
at 0.8 cm → 20 = $p^2/08^2/0.05$ = 16 kg sec./cm $\quad A_8 = 08\ cm^2$

at 0.9 cm → 20 = $p^2/09^2/0.05$ = 18 kg sec./cm $\quad A_9 = 09\ cm^2$

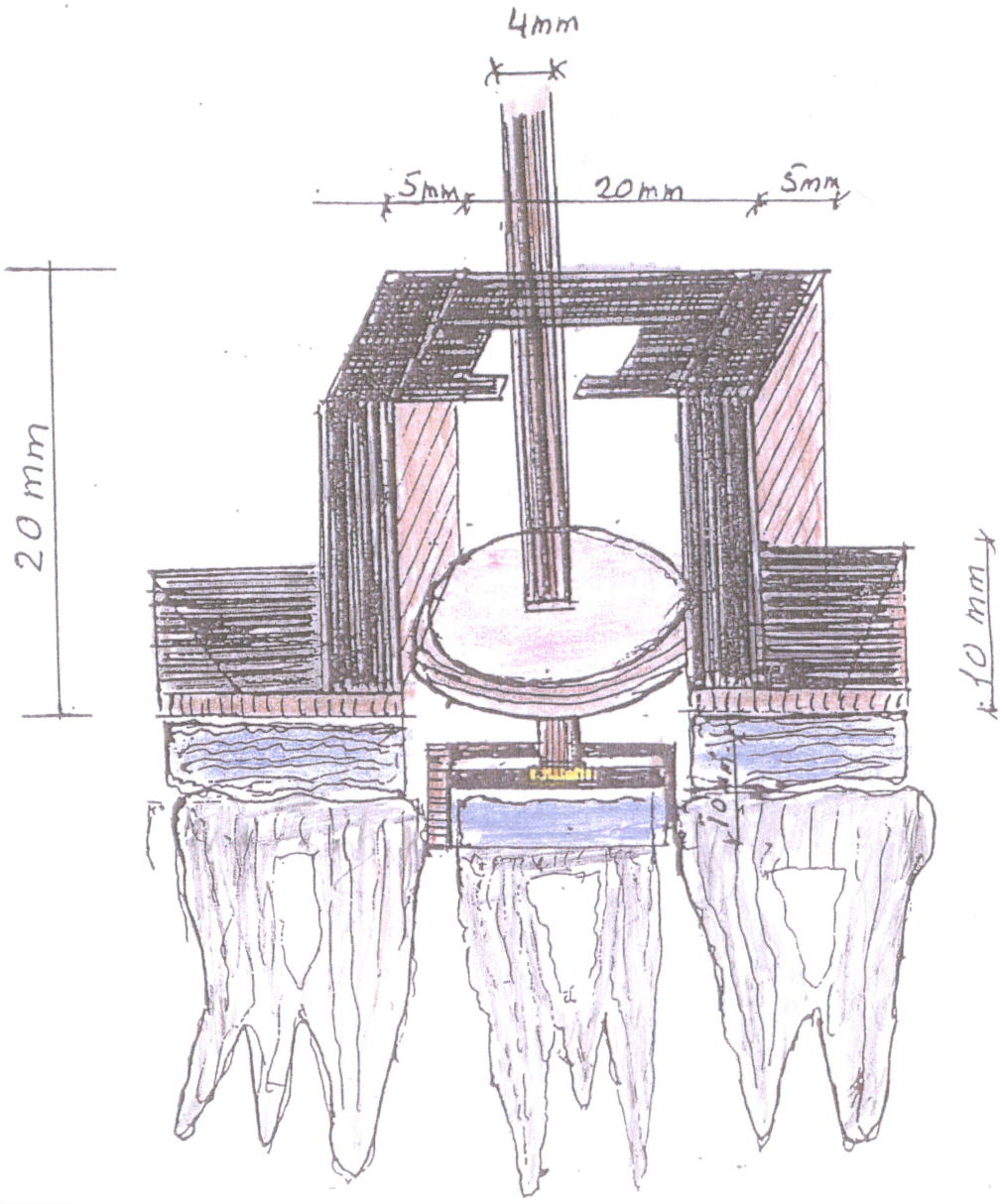
at 1 cm → 20 = $p^2/1^2/0.05$ = 20 kg sec./cm $\quad A_{10} = 1\ cm^2$

External surface area $A = \frac{P}{\sigma d} = \frac{20}{20} = 1\ cm^2$

TOOTH PULLING DEVICE



DETAILED SCHEME OF A TOOTH PULLING HOLE



ATOMIC EQUATION APPLICATIONS ON ECONOMY

How much profit out of 100 Turkish kuruş can be acquired in 23 hours and with 050 increase ?

data : $\sigma p = 1000$ krş L=23 hours v=050

$$\sigma = P^2 / L^2 / v$$

in 1 hour → $1000 = p^2/1^2/050$, P = 44,72 krş

in 12 hours → $1000 = p^2/12^2/050$, P = 536,66 krş

in 24 hours → $1000 = p^2/24^2/050$, P = 1073,31 krş

another sample;

10.000.000.000 TL profit is targeted to be acquired out of 100.000.000.000 TL in 90 days. How the calculations should be ?

V=? Operation speed P_1=? Daily profit, % = ?

$v = \sigma x L^2 / p^2 = 100.000.000.000x\ 90^2 / 10.000.000.000^2$
V=00000081

daily profit $100.000.000.000 = \dfrac{\dfrac{P_1^2}{1^2}}{00000081}$

P_1 = 111.111.111.1 TL

% increase 111.111.111.1 / 100.000.000.000 = 001 %